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EPIDEMIC POLIOMYELITIS

EPIDEMIOLOGY, CAUSES, AND PREVENTION*

BY

SIR ARTHUR S. MACNALTY, K.C.B., M.A., M.D., F.R.C.P.

CHIEF MEDICAL OFFICER OF THE MINISTRY OF HEALTH

Poliomyelitis has been described by Simon Flexner as "one of the saddest of diseases," and Dr. Thomas Buzzard characterized it as being "peculiarly cruel" to its hapless victims. Apart from the fact that the majority of the sufferers are young children, it leaves a considerable proportion of the survivors permanently paralysed, and so crippled as to constitute for them a life-long handicap in the struggle for existence.

The malady has been described by somewhat cumbrous names. It is scientifically known as acute poliomyelitis (including polio-encephalitis and polio-encephalo-myelitis). It has long been known under the name of "infantile paralysis," but the term is misleading, for the disease may occur in adults, though not so frequently as in children, and paralysis does not always supervene. Most epidemiologists prefer to speak of the disease simply as "epidemic poliomyelitis."

History

Acute poliomyelitis appears to have existed from very early times.

"Since the days of Mephibosheth," wrote Osler, "parents have been inclined to attribute this form of paralysis to the carelessness of nurses in letting the children fall, but very rarely is the disease induced by traumatism." Sir Walter Scott was attacked in 1773 when 18 months old. He describes it as "the fever which often accompanies the cutting of large teeth" (Lockhart's Life of Sir Walter Scott). Scott's right leg was paralysed and permanent lameness resulted.

The first medical description of poliomyelitis appears to have been given by an English practitioner, Michael Underwood, in the first edition of his treatise on the *Diseases of Children* in 1784. He devotes two pages in his book to the disease under the title of "Debility of the Lower Extremities." In 1822 Shaw reported a few cases. Dr. John Badham, of Worksop, Notts, in 1835 described four cases, and for the first time drew attention to the cerebral symptoms of the disease. Jacob Heine in 1840 wrote an instructive monograph and is regarded generally as the pioneer contributor to modern knowledge of poliomyelitis. Some thirty years later, Medin of Stockholm called attention to the fact that the disease occurred occasionally in epidemics; hence the term "Heine-Medin disease," which is commonly used in Germany and Scandinavia to include the various clinical forms of acute epidemic poliomyelitis.

From the writings of Underwood in 1784 up to 1863, the clinical side of poliomyelitis was chiefly studied and there was little or no knowledge of the pathological processes involved. But in 1863 von Reinecker and von Recklinghausen in Germany, and Cornil in France, described the lesions in the anterior horns and the lateral columns of the spinal cord. Then followed a long procession of workers. Rissler first investigated the histology of the acute cases and his work has been completed by the studies of Harbitz and Scheel (1907), Wickman (1901 and 1905), Strauss (1910), and Peabody, Draper and Dochez (1912).

Strümpell gave the first complete account of the cerebral type of poliomyelitis (polio-encephalitis) in 1884. The first adult case of poliomyelitis was described by Vogt in 1859.

Pathology

The studies of Flexner and Lewis, Leiner and von Wiesner, Landsteiner and Levaditi, and others have shown that the disease is due to a virus which passes through the finest filter and that the filtrate is capable of reproducing the disease in monkeys. The virus attacks the nervous system, causing inflammation of the grey matter, especially of the anterior cornua of the spinal cord. The histological lesions are hyperaemia, exudation of lymphocytes round the blood vessels, and degeneration of the large motor cells. Occasionally the whole thickness of the cord may become involved and a transverse myelitis result. The brain may be primarily or secondarily affected (polio-encephalitis and polio-encephalo-myelitis) and the meninges implicated. Widespread visceral lesions are found, such as hyperplasia of the tonsils, the spleen and the lymphatic glands, together with cloudy swelling of the kidney and liver.

Clinical Features

Acute poliomyelitis is best described as an acute infectious fever which may or may not proceed to invasion of the nervous system. Walshe[1] submits that a precise and practical conception of poliomyelitis is obtained by recognizing the existence of three clinically and pathologically distinct stages in its evolution: one of general infection during which the virus obtains lodgment in the liver, spleen, lymphatic glands and bone-marrow, in all of which tissues lesions are found; one of invasion of the subarachnoid space, when the virus gives rise to a characteristic meningeal reaction as revealed by examination of the cerebro-spinal fluid; and a third of invasion of the grey matter of the central nervous system, where the virus produces inflammatory lesions. Walshe's classification is adopted in the following description of the clinical features, but it must be emphasized that the three stages often overlap or synchronize.

Clinical Character

1. *Initial Stage.*—This stage is variable in duration; it may last only a few hours and be unrecognized, or on the other hand it may extend to five or even ten days. The initial symptoms may be those commonly associated with the pre-eruptive period of the exanthemata—headache, pyrexia (102°-103°), malaise, sore throat, tonsillitis, coryza, nasal discharge and irritability of temper. Epistaxis may occur and, in some epidemics, vomiting and diarrhœa are leading symptoms. There is no typical skin

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eruption; herpes and herpes zoster have been noted; erythematous or morbilliform rashes may occur, and cases have been erroneously diagnosed as scarlet fever or measles. The condition may clear up rapidly and complete recovery ensue (mild or abortive cases). On the other hand, the initial stage may merge into a second phase. Exceptionally there may be a remission period of some hours, or even days, between these phases in which the temperature falls to normal, the child appears to have recovered and perhaps is allowed to go about on the assumption that he has had a slight febrile ailment. But there comes a recrudescence of temperature and an accentuation of the disease.

2. *The preparalytic stage* indicates subarachnoid or meningeal invasion. It varies in intensity and duration, being at times so slight and transient as to be unnoticeable, and at others of great severity. On the whole its duration is short and it ends either in speedy recovery or passes into the paralytic stage within a few hours. The chief signs are continuation (or renewal) of the pyrexia and headache, onset of pains in the back and limbs with tenderness over the upper dorsal vertebrae, stiffness of the neck and spine with resistance to passive flexion, muscular twitchings (often indicating the site of future paralysis), hyperaesthesia, retention of urine, drowsiness and sometimes deep stupor, occasionally even opisthotonos. Diminution or disappearance of the superficial or some of the deep tendon reflexes may be the first indication of the nature of the case. Kernig's sign is frequently present.

3. *Paralytic Stage* (stage of invasion of the central nervous system).—Once the virus is established in the central nervous system paralytic phenomena may appear, their character being dependent on the localization and intensity of the lesions.

(*a*) *Poliomyelitic Form.*—In this form the lesions involve the lower motor neurons, giving rise to flaccid paralysis affecting one or two muscles, or a group of muscles, or one or more limbs. The paralysis comes on as a rule three or four days after the onset of illness, but sometimes it may be the first sign of the disease detected. A child may go to bed apparently well and awake with one or more of its limbs paralysed. Even in epidemic periods it is usually only when paralysis has supervened that the diagnosis of poliomyelitis is made.

(*b*) *Polio-encephalitic Form.*—The lesion chiefly or solely involves the upper motor neurons, resulting in late spastic paralysis. In some cases both brain and cord are involved (polio-encephalo-myelitis). The nervous symptoms are of varying degrees of severity ranging from temporary paresis, or even nystagmus only, to convulsions followed by hemianopia, hemiplegia to diplegia. Recovery or death may take place within a few hours or the case may be protracted.

This form was formerly regarded as rare in epidemics of poliomyelitis. Wickman, in the Swedish epidemic in 1905, in over 1,000 cases did not see a single instance. Nor was any example reported in the New York epidemic of 1907, in which over 2,000 cases were observed. This cerebral type of poliomyelitis has been seen not infrequently in England and Wales in recent years. I found this to be a striking feature of the Broadstairs epidemic in 1926 where, out of fifty-five cases, no fewer than thirty-two were examples of polio-encephalitis. With one or two exceptions the cerebral cases in this epidemic occurred at ages over 5 years. Below 5 years of age the spinal form of the malady is usually seen.

Dr. Scott Brown described in 1931 an epidemic of fifteen cases of poliomyelitis occurring in a school in which all the cases were either of the cerebral or of the abortive type. There was no spinal case in the epidemic.

After-effects

In the poliomyelitic form the paralysis may persist and the patient is crippled to a degree corresponding with the extent of the damage to the spinal cord. In the encephalitic form, though the risk of fatality is greater, there are commonly no after-effects on recovery.

Diagnosis

The initial symptoms of poliomyelitis are indistinguishable from those of the onset of other infectious diseases, but it must be remembered that in poliomyelitis this stage may pass very rapidly into that of involvement of the central nervous system, and, if there be any cause for suspicion of poliomyelitis, the patient should be kept under close medical supervision so that the physician may detect the earliest signs of meningeal invasion.

As regards the polio-encephalitic form, the implication of the brain, medulla, meninges or spinal nerves may give rise to varying symptoms (for example, in bulbar paralysis speech disturbances are noted). There may be confusion in the differential diagnosis between polio-encephalitis and cerebro-spinal meningitis, encephalitis lethargica, tuberculous meningitis or septic meningitis. The previous history of the patient and the presence of similar cases in the vicinity, together with the examination of the cerebro-spinal fluid, will assist in the determination of the diagnosis.

The Cerebro-spinal Fluid

Examination of the cerebro-spinal fluid is often of value in the diagnosis of poliomyelitis.

In the initial stage the cerebro-spinal fluid is normal with a cell count of from 0 to 10 c.mm. In the preparalytic stage (subarachnoid or meningeal invasion) the fluid is usually under moderately increased pressure (aggravated by anaesthesia) and appears to be clear, though when viewed by transmitted light it presents a faint haziness or "ground glass" appearance. There is an increase in the number of cells (mononuclear and polymorphonuclear), the count usually being between 50 and 250 per c.mm., but occasionally it may be as high as 700 to 800, or as low as 20. The second characteristic is that the ratio of lymphocytes to polymorphonuclear cells (neutrophils) increases rapidly as paralysis approaches. There is also an increase of globulin and the chlorides are not reduced (whereas in tuberculous meningitis chlorides are reduced).

Epidemiology of Poliomyelitis

Seasonal Prevalence.—Although the disease tends to occur in the temperate rather than in the torrid zone, it has a well-marked seasonal prevalence in the warm months of the year, July, August, and September. August is usually the month for maximal case-incidence. Sporadic cases and small outbreaks have been recorded in other months of the year and epidemics arising in late summer and early autumn may be protracted to include later months. The Broadstairs epidemic of 1926 occurred in October when the temperature was dry and warm; the Uppingham outbreak was early in November of the same year and cases continued to be notified in December and in January and February of the following year. Winter epidemics have been recorded by Wickman in Sweden and in West Virginia by Draper.

Geographical Distribution.—The most extensive epidemics of poliomyelitis have occurred in Scandinavia, the United States, and in Australia and New Zealand. Most of the countries in Europe have experienced the effects of this epidemic malady from time to time, and outbreaks have been studied in France by Netter and in Germany by E. Müller, P. Krause, and others. The occurrence of the disease in South America—for example, in Ecuador—has been observed. We have little information about the

occurrence of the disease in Asia and Africa.* Very severe and widespread epidemics have occurred in the United States, especially in the years 1907 and in 1916. In the latter year in New York City alone 9,063 cases were reported with 2,308 deaths.

Table showing Notifications and Deaths of Civilians from Poliomyelitis and Polio-encephalitis since the Disease became Generally Notifiable

England and Wales

Year	Poliomyelitis		Polio-encephalitis	
	Cases	Deaths	Cases	Deaths
1913	729	206	—	—
1914	509	147	—	—
1915	517	172	—	—
1916	688	190	—	—
1917	357	168	—	—
1918	228	251	—	—
1919	553	181	62	*
1920	293	133	36	*
1921	488	129	51	40
1922	355	109	31	27
1923	587	79	57	40
1924	777	121	83	35
1925	371	116	51	40
1926	1,159	176	138	59
1927	801	112	95	70
1928	452	112	89	55
1929	532	85	91	55
1930	506	108	85	56
1931	339	63	55	35
1932	656	103	94	75
1933	714	135	83	67
1934	590	82	82	53

* Included under poliomyelitis.

Incidence and Endemicity.—The above table shows the reported prevalence of poliomyelitis and polio-encephalitis, together with the number of deaths, since the disease was first notified in 1912. The year of highest incidence in this table is 1926. It is impossible, however, to give an approximate estimate of the incidence upon the general population because, as in other countries, owing to failure to recognize the mild and abortive types of the disease, a considerable number of cases are never notified. The incidence must be controlled by many factors, of which probably the more important are the intensity of the outbreak, the virulence of the causal virus and the susceptibility of the population. In a community previously unattacked by poliomyelitis one might expect a higher incidence than in a community where previous attacks have eliminated susceptibles or produced some degree of general immunity. There are, however, instances of poliomyelitis being endemic in an area and also the disease may reappear in a place previously attacked. Such reappearances have usually been ascribed to the fresh importation of virus from an outside source. Experiments by Flexner and Amoss show that the virus of poliomyelitis may live for four to six years in a suitable medium, so the reappearance mentioned may sometimes depend also upon reactivation of the original virus.

Incidence in Urban and Rural Communities.—In 1910 and 1911, when epidemic poliomyelitis was largely prevalent in England and Wales, the cases observed chiefly occurred in rural areas and in small urban districts. Later figures up to 1925 showed an increased incidence in urban communities in England and Wales. Large towns were not specially affected, in 1926, with the exception of the outbreak at Leicester, the disease chiefly manifesting itself in small urban centres situated in rural districts.

Mortality.—The case fatality of poliomyelitis varies in different epidemics. An average variation is from 10 to 20 per cent. It depends upon whether the mild and abortive cases of the disease are recognized or escape detection in the different epidemics. In the Surrey outbreak of 1917, in which many of these cases were detected, I found the case fatality to be 7.1 per cent., which is within the limits recorded by Holt and other observers. In the Danish epidemic of 1934, reported by Dr. Claus Jensen, when an unusually large number of non-paralytic cases were recognized, the case fatality was apparently much lower, a little over 1 per cent. Occasionally the mortality is exceptionally high. Wickman, for example, recorded a mortality of 42.3 per cent. in a small epidemic.

Age and Sex.—The age of the patient attacked by poliomyelitis has an important influence upon the fatality rate; the younger the age the better is the chance of survival. In Wickman's series the case mortality was 11.9 per cent. for children under 11 years and 27.6 per cent. for persons between the ages of 12 and 32 years. It is not altogether certain whether the disease occurs *in utero*: Morton[2], Batten[3], and others have reported cases which they considered examples of intrauterine infection. The disease not infrequently occurs within the first years of life; 23 of the 228 cases notified in England and Wales in 1918 fell within this age-period. Duchenne[4] reported a case twelve days after birth, Bramwell[5] one of 3 weeks of age, and Sinkler[6] two cases under 1 month of age. Ruhräh and Mayer[7] state that adults are affected generally to the extent of about 10 per cent. in the various epidemics, but in this there are great variations, at times the percentage being higher and sometimes much lower. If a large number of the population fall victims to an epidemic, the proportion of adult cases appears to be high; for example, Müller reported a remarkable epidemic on the island of Nauru, where in a population slightly exceeding 25,000 some 700 cases of poliomyelitis occurred within a few weeks, the majority of which were in adults. In the New York epidemic of 1916 the number of cases reported in adults was considerable. The tendency in most outbreaks of poliomyelitis is for a slightly greater proportion of males than females to be attacked. The percentage of deaths in males is also slightly greater than among females.

First and Second Attacks.—As a rule, one attack of poliomyelitis produces permanent immunity. There are exceptional and rare cases in which a definite second attack of poliomyelitis has occurred in the same individual. Two cases of the kind were noted in the New York epidemic of 1916. Eshner has reported the case of a girl in which eleven years elapsed between the two attacks. Sanz records a similar case with fourteen years' interval.

Incubation Period.—In experimental observations the incubation period is stated to vary from three to forty-six days, the general period being about eleven days. Clinical observations suggest an incubation period of from two to ten days, and although shorter and much longer periods have been recorded the average period may be regarded as from three to four days.

Transmission.—The presence of the virus has been demonstrated in the nasopharynx of patients and of persons who give no definite history of having had the disease and who may, or may not, have been in known contact with it. Presumably, infection may be spread directly not only by patients but by persons apparently healthy. There is not sufficient reason to believe that the virus of poliomyelitis is conveyed to man by foodstuffs (including milk) or insects, or that the disease is associated with insanitary conditions. In the outbreak of poliomyelitis in 1935 in New York, a recent report[8] states that the risk of contracting the disease was found to be greater in the richer than in the poorer districts. Similar findings have been recorded from other cities.

* For information concerning the earlier appearances of poliomyelitis in various parts of the world, reference may be made to "A Short Account of the Epidemiology of Acute Anterior Poliomyelitis in Recent Years," by the late Dr. R. Bruce Low, published as an appendix to the Report of the Medical Officer of the Local Government Board for 1914–15.

Epidemic Nature of the Disease

The recognition of poliomyelitis as an epidemic disease has been extraordinarily slow and even to-day the epidemic characteristics are not fully appreciated by all medical practitioners. The explanation of this will be seen presently. The cases described by Badham at Worksop in 1835 appear to relate to a small epidemic outbreak, the first of its kind recorded in England. George Colmer, in 1843, noted the occurrence of poliomyelitis in eight or ten children under 2 years of age in Iowa in 1841. This is usually considered to be the first American epidemic on record. But we learn of an earlier prevalence in 1795, in Albany, U.S.A., in the Memoirs of Madame La Marquise de la Tour du Pin. The Marquise and her husband were fugitives from the French Revolution. She wrote:

> "My little Seraphine was taken from us by a sudden illness very common in this part of the country—a kind of infant paralysis. She died in a few hours without losing consciousness. The physician from Albany gave us no hope that she would live, and declared that this malady was then very common in the country and that no remedy was known. The young Schuyler who only the day before had been playing with my daughter during the afternoon succumbed to the same trouble a few hours later and rejoined her in Heaven."

It was evidently a virulent epidemic.

As I have already observed, to the Swedish physician Medin belongs the credit of classifying poliomyelitis as an epidemic disease. This was in 1881. From 1883 to 1886 small outbreaks involving groups of cases were reported from Italy, France, Germany, and Norway. Macphail and Caverly in 1894 reported the first extensive American epidemic of 132 cases in Rutland, Massachusetts.

The first English epidemic was described by W. Pasteur in 1897; he detected poliomyelitis in seven members of one family at Much Hadham, a small village in Hertfordshire. Subsequently, Dr. Thomas Buzzard and Dr. F. E. Batten independently described an undue prevalence of the disease in London and elsewhere.

In 1907 the classical monograph on the subject was written by Ivor Wickman, of Stockholm, the pupil and assistant of Medin, who made a thorough study of the epidemiology and first recognized and described the so-called abortive and non-paralytic cases. These cases are of great epidemiological and public health importance and when they are not reported and isolated are mainly responsible for the spread of the disease; they appear to be as capable of diffusing the infection as the well-marked cases which develop paralysis. Though having the initial symptoms of poliomyelitis the abortive cases stop short of paralysis and seem to recover quickly. In some cases, however, paralytic signs appear subsequently. The three cardinal prodromal symptoms are said to be profuse sweating, hyperaesthesia, and leucopenia (Müller). Sometimes the initial symptoms mainly involve the respiratory or the gastro-intestinal tract.

From 1908 up to the present time epidemic outbreaks have occurred in appreciable numbers in this country, and have been placed on record by Reece, Farrar, Macewen, myself and others. The following is a summary of the chief epidemics that have occurred:

1897. Outbreak in Hertfordshire (W. Pasteur).
1904. Cases in London (F. E. Batten).
1908. Outbreak at Upminster (W. W. Treves).
1909. Outbreak at Bristol (G. Parker). Cases in London (A. C. Parsons).
1910. Outbreaks in Cumberland (Carlisle), Northumberland, Nottinghamshire, Leicestershire, Dorset, Gloucester, and York.
1911. Epidemics in Devon and Cornwall (R. J. Reece), Plymouth, Huntingdon, Hampshire, Bedfordshire, Suffolk, Yorkshire, Westmorland, Derbyshire, and Wales.
1913. Outbreaks in Barrow-in-Furness, North-West Lancashire, and Westmorland (Macewen).
1917. Outbreaks in Esher and the Dittons Urban District and Epsom Rural District (MacNalty), Cambridge and Cambridgeshire (Macewen).
1920. Matlock. A group of nine cases investigated by Dr. E. L. Sturdee.
1921. Wantage. A series of ten cases investigated by Dr. A. C. Parsons.
1923. A small outbreak (seven cases) at Hastings, investigated by Dr. A. C. Parsons.
1926. Excessive prevalence of poliomyelitis. Epidemics in Leicestershire, Kent (Broadstairs outbreak), Essex, and generally throughout England and Wales (MacNalty).
1930. A small but highly virulent outbreak in Grimsby (nine cases), and an outbreak in Spilsby Rural District (twenty-three cases). Investigated by Dr. W. A. Lethem.
1932. Two outbreaks in boarding schools.
1934. Outbreaks in Berkshire and Somerset (Dr. Norman Smith).

The study of these English epidemics has confirmed and supplied additional evidence to show that human contact from one individual to another is the chief, if not the sole, means by which poliomyelitis spreads in epidemic form, as Wickman first showed.

It is now well established that infection may be conveyed by (1) persons suffering from an acute typical attack of poliomyelitis; (2) individuals having a mild or a typical form of the malady; (3) healthy persons who have been in close contact with the sick but have not themselves developed an attack; and (4) chronic carriers who have apparently quite recovered from a previous typical attack. Infectivity in acute cases is greatest during the early stages of the disease.

Prevention

In epidemics of poliomyelitis infection is probably widespread in a community, but only a certain proportion of susceptibles are attacked. Poliomyelitis in this respect falls into line with other epidemic diseases of the central nervous system—for example, cerebro-spinal meningitis and encephalitis lethargica.

In diphtheria and scarlet fever research has discovered reactions (the Schick and Dick tests) which enable susceptibles to be identified. A similar discovery in epidemic nervous diseases would help largely in their prevention. Some indication towards this desirable end may be found in Amoss and Taylor's discovery of protective substances against the virus of poliomyelitis in the nasal secretions of certain individuals.

Until medical research has provided us with new weapons to combat poliomyelitis, it behoves us to study the disease attentively and to learn from the established facts of its epidemiological behaviour and pathology what measures of prevention, administrative and otherwise, are practicable and desirable.

An attitude of quiescence in dealing with epidemic poliomyelitis is to be deprecated. The argument has not infrequently been put forward that here you are faced with a widespread infection and that much of the infection is admittedly due to healthy "carriers" and mild cases which often go undiagnosed. You had better let the epidemic go on since you cannot check it and concentrate solely on securing effective treatment for the paralysed victims of the disease. I am glad to say that at the Ministry of Health we have never subscribed to such a doctrine and personal experience has convinced me that much can be done with the whole-hearted co-operation of medical officers of health and general practitioners to check the spread and severity of an epidemic. If the infectivity of the disease is fully appreciated, if the existence of abortive and mild cases is realized and if these as well as the more easily recognizable cases are notified and isolated in hospital or otherwise, potential sources of infection are shut off from susceptible individuals; thereby the exaltation of virulence by passage from individual to individual is prevented and the epidemic spreads to a much lesser extent than if uncontrolled. These are reasonable assumptions.

As regards the measures that can be taken, first of all it is incumbent upon both medical officers of health and practitioners to improve the standard of notification of poliomyelitis. As judged from the patients who are seen at orthopaedic clinics suffering from the paralytic effects of the disease, many cases still fail to be notified in the early and acute stages. Particularly in epidemic periods an alert watch should be maintained for the abortive and mild types.

Precautions Against Infection

While it is difficult at present to say how long a patient remains infectious, he should be isolated from other children for six weeks, and personal association with him limited to the minimum necessary for proper care and nursing. Those in attendance should bear in mind that infection may be conveyed from the nasopharyngeal secretions, the urine, and excreta. A strictly surgical standard of nursing is indicated, and nurses should be advised to use nasal sprays or douches and to gargle the throat with normal saline solution. A solution of permanganate of potassium, 1 in 5,000 in 0.8 per cent. solution of sodium chloride (common salt), has been found to inhibit the action of the virus. Some authorities are of opinion that the employment of chemical antiseptics is liable to destroy the virucidal properties of the normal secretion of the nasopharynx.

Children in the affected household should remain away from school for a period of three weeks after isolation of the patient, but it would not appear that complete restriction need be placed on adult members of the household provided they remain well. In regard to the closure of residential schools, the balance of advantage is in favour of *not* closing a school on the appearance of poliomyelitis. If the school be closed any potential infection is more widely distributed (not infrequently in homes containing younger children) and passes beyond such supervision and control as are furnished in a well-equipped residential school conducted on hygienic lines. Moreover, the care and treatment of the patient is, generally speaking, likely to be more effective in such a school than at home. While this advice in general favour of the non-closure of schools remains unaltered, it is only right to add that the circumstances of each epidemic in residential schools require very careful consideration in deciding what is best to be done in a situation of admitted difficulty.

Any persons in the infected household who suffer from such of the symptoms described as suggestive of an abortive attack should be isolated as far as possible until they have recovered.

Orthopaedic Treatment

Great advances have been made in orthopaedic surgery in the treatment of paralytic poliomyelitis within recent years, but a description of the triumphs achieved lies without the scope of this lecture. In view of the high proportion of cases of poliomyelitis which occur below the age of 5 years, and bearing in mind the good results of effective treatment and the serious consequences of neglect, it is important to take such steps as may be possible to secure orthopaedic treatment for young children in connexion with the Child Welfare Services. Health visiting and the orthopaedic clinic are valuable means by which cases of paralysis are discovered and referred for treatment. All notified cases should be followed up throughout the whole period of their illness to ensure that their treatment is suitable and continuous.

Prevention of Paralysis by Human Convalescent Serum

The administration by the subcutaneous, intravenous or intrathecal methods of serum obtained from a patient who has formerly had poliomyelitis (so-called "convalescent serum") was advocated by Netter in 1911 in the preparalytic stage with a view to preventing the onset of paralysis. Between 1925 and 1931 Macnamara and Morgan[9] treated 133 persons in the preparalytic stage in outbreaks in Australia and concluded that the serum gave "excellent" results, but inasmuch as the physicians concerned felt they had no right to withhold the treatment from any patient who might be in the preparalytic stage, no adequate controls were forthcoming and complete proof of the value of this remedy is therefore not yet established. In America, Park, Kramer, Aycock, and their co-workers carried out the treatment with such controls as were found practicable and concluded that no statistical evidence was obtained that convalescent serum was effective, but that the reverse conclusion—that it was of no value—could not be drawn. Similarly, the New York Academy of Medicine (October, 1932) after a review of the whole question of the use of convalescent serum declare that "the results of the study are inconclusive."

In the Berkshire outbreak in 1934, Dr. Norman Smith reported that serum was administered to several cases, but that its value in preventing the onset of paralysis could not be estimated.

Clearly much more experience of this remedy is necessary before its value can be appraised, and the same is true also for normal sera obtained from human beings or from artificially immunized animals (the use of both of which has been suggested on the ground that they have been found to contain relatively large amounts of the specific antibody).

Prophylaxis by Poliomyelitis Vaccine

Two forms of poliomyelitis vaccine are on trial in the United States. One of them, Kolmer's, is a living vaccine attenuated by treatment with sodium ricinoleate; the other, Brodie's, is a virus killed with formalin. At the annual meeting of the American Public Health Association, held in October, 1935, it was agreed that Brodie's formolized vaccine is safe, though not necessarily efficacious. It had been given to 8,000 persons, and though one of these had soon afterwards developed poliomyelitis there was reason to suppose the vaccine innocuous. On the other hand, doubt was expressed as to whether the administration of a living attenuated virus which in a few cases has been followed by the appearance of paralytic poliomyelitis was desirable in the present state of knowledge. Dr. J. P. Leake, medical director of the United States public health service, in a paper published at the end of last year[10] adduces additional evidence supporting this grave warning.

Conclusion

As I have endeavoured to show, much knowledge concerning the clinical manifestations, pathology, epidemicity and prevention of epidemic poliomyelitis has been acquired within a comparatively short period of time. The omens are therefore propitious for future work. On this theme I cannot do better than conclude with the words of Mr. Jeremiah Milbank, whose zeal and munificence organized the International Committee for the Study of Infantile Paralysis which has done such excellent work. Mr. Milbank wrote:

"The war against disease in all its forms presents a stirring challenge and maintains a keen and never-failing interest. One of its satisfactions is that the battle line never retreats, and while progress may prove slow, each gain is held and forms the base for further advance. The more difficult the objective the greater is the incentive for attack. Infantile paralysis, and the possibility of its prevention and cure, holds a peculiar appeal, especially to those who love children. Other similar problems, no less difficult, have in the end

yielded to persistent and devoted research and the solution has been found. There is every reason to hope for a similar outcome in this undertaking, and the universal rejoicing in this achievement will more than repay the labours of all those who have been privileged to have a part in it."

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BRAIN SIZE AND MENTALITY

BY

R. J. A. BERRY, M.D., F.R.C.S.ED.

STOKE PARK COLONY

(A preliminary account of part of the work of the Burden Mental Research Trust)

In a previous and more technical communication[1] a preliminary account was given of some of the structural abnormalities presented by the brains of mental defectives. These observations have since been extended on more general medical grounds to include normal brains, defectives, and mongolians, while the technique has been improved by including cerebral breadth as well as height and length, from which can be calculated the brain product as an index of cerebral size. With this product of brain size comparisons are easily instituted between normals and abnormals, and it is thus possible to ascertain the relationship of brain size to average or defective mentality.

At the moment the available material comprises thirty-nine normal brains of both sexes and various ages, and seventy defectives, of whom sixteen are mongolians. The final analysis will, it is hoped, be made on an equal number of normals and defectives, both series to comprise not fewer than 100.

The technique is the same throughout. The left cerebral hemisphere having been removed and specially prepared for subsequent histological examination, the right half of the hardened brain is placed in a dioptrograph, and a life-size tracing is made of the external or lateral surface. On these tracings measurements, angles, and planimeter readings of size can be made with a high degree of accuracy. Cerebral breadth is measured by the diagraph. As this mode of recording the length, breadth, and height of the brain coincides with similar methods for measuring the dried skull or living head all three procedures are comparable, and permit an interchange of data.

Preliminary Considerations

Size of the Normal Adult Brain.—In view of the fact that there do not appear to be available any reliable figures of the three linear dimensions of the adult normal human brain, it may at once be stated that in this series the figures are as follows:

Cerebral length	170.67 mm.
Cerebral breadth	133.92 mm.
Cerebral height	108.25 mm.

These dimensions are those of twenty-eight normal brains from persons of both sexes over 8 years old. As will be shown later, the normal human brain appears to attain its final adult dimensions between the eighth and eleventh years of life, though this does not apply to head growth.

Brain Products as an Indication of Brain Size.—A simple and reliable index of brain size may be obtained by multiplying together the figures for length, breadth, and height, and taking the first three figures of the calculation as the index product of brain size. Thus if a brain has the dimensions quoted above, then the product is 247, because if the figures for length, breadth, and height to the nearest whole numbers be multiplied together the answer is 2,474,712, and the first three figures, again to the nearest whole number, are 247, which thus becomes the index product of brain size. By this simple method it is possible to establish comparisons of brain size between individual normals, as also between normals and defectives. It is further possible to establish direct comparisons between brain size and living head size, and to estimate from the latter the probable size of brain of the living individual.

Brain Products as an Index of Normal Brain Growth.—Since the present series of normal brains includes infants and children as well as adults—although the former are not yet as numerous as could be wished—the effects of normal brain growth, as shown by the product method, are indicated by the following:

Chronological Age	Brain Product
3.6 weeks	70
3.6 months	148
2.6 years	204
2.11 ,, ...	227*
4.0 ,, ...	226
8.0 ,, ...	242
11.0 ,, ...	249
21.0 ,, ...	249

* Above average

The close agreement of this rate of growth with other known figures, as also with Donaldson's estimates, is sufficient evidence of the reliability of the method. In 1895 Donaldson wrote: "At birth the weight of the encephalon is nearly alike in both sexes, and in both growth during the first year, and indeed during the first four years, is rapid. By the seventh year the encephalon has reached approximately its full weight, the subsequent increase being comparatively small." That the defective brain departs altogether from these standards of normal growth may be shown by the fact that out of sixteen defectives between the ages of 4 and 10 years none attained to the normal 4-year-old brain product, and only four achieved a size of brain equal to that of a normal 2.6-year-old infant.

The Brain of the Defective

While neurologists would naturally expect the intellectual and moral deficiencies of defectives to be reflected in the size and make-up of the brain, it is not improbable that the pure psychologists would endeavour to explain the mental deficiency on temperamental, emotional, or, indeed, on any ground other than the materialistic, yet that there is a very definite physical basis for mental deficiency the following comparison of size alone will clearly prove:

Linear Dimensions

	Cerebral Length mm.	Cerebral Breadth mm.	Cerebral Height mm.
28 normals above 8 years ...	170.67	133.92	108.25
55 defectives above 8 years ...	154.69	116.07	103.63

Brain Products

28 normals above 8 years	247.64
55 defectives above 8 years	187.49

[1] *Journ. Neurol. and Psychopathol.*, 1935, xvi, 54.

TOP ROW: Growth of the normal human brain.
From left to right—
1. Female, aged 3 weeks
2. Male, aged 3.6 months
3. Female, aged 2.6 years
4. Male, aged 4.0 years
5. Male, aged 8.0 years
6. Male, aged 21.0 years.

MIDDLE ROW: Normal human brains.
From left to right—

1. Female, aged 9.0 years	...	119 %
2. Male, aged 17.0 years...	...	103 %
3. Female, aged 19.0 years	...	100 %
4. Male, aged 45.0 years...	...	106 %
5. Male, aged 49.0 years...	...	95 %
6. Male, aged 55.0 years...	...	113 %

BOTTOM ROW: Brains of mental defectives.
From left to right—

1. Female, aged 9.7 years	...	55 %
2. Female, aged 11.7 years	...	67 %
3. Female, aged 16.1 years	...	62 %
4. Female, aged 18.3 years	...	65 %
5. Male, aged 21.2 years ...	...	68 %
6. Female, aged 12.7 years	...	77 %

The defective percentages are expressed in terms of Brain No. 3 of the middle row.

The proportion of the product of the defective brain to the normal is, after the cessation of brain growth, as 76 is to 100—that is to say, the majority of mental defectives are so because their brains are about one-quarter too small. This fact may also be shown on a percentage basis, the brain of the normal 8-year-old child being regarded as equal to 100 per cent., thus:

	Per cent.
Normal 8-year-old child	100
Normal 2.6-year-old child	85
28 mental defectives, average age 10.7 years ...	72
Normal 3.6-months-old infant	62
Normal 3-weeks-old infant	29
Gorilla	24

The mental defective over 10 years of age ranks, as regards brain size, at about the level of an 18 to 24 months normal human infant. Mental deficiency is thus seen to be characterized by the persistence of an infant's brain in the stunted body of an adult—that is to say, it is a departure from the normal standards of normal growth.

NORMALS, DEFECTIVES, AND MONGOLIAN DEFECTIVES

In view of the general interest taken in mongols, a similar analysis may now be made of their brain products to ascertain how far, if at all, they differ in brain size from other defectives. The series from which the present comparison will be drawn comprised thirty-nine normal persons, five of whom were below 8 years old; fifty-four defectives, including eight below 8 years of age; and sixteen mongols, of whom one-half were below 8 years of age, the oldest in the group being a female who died at the age of 30.10 years. The fifty-four defectives were in no way selected, but included even the most obviously pathological, such as pronounced hydrocephaly, porencephaly, microgyria, absence of the corpus callosum, tuberosclerosis, and under-developed opercula, to mention only a few.

The average ages and brain products of the three groups are as follows:

	Average Age	Average Brain Product
A. 39 normals	29.0 years	239
B. 54 defectives	18.0 ,, ...	191
C. 16 mongols	13.2 ,, ...	177

The mongolian is thus seen to be the most lacking of defectives in brain size.

Brain Proportions

In addition to an undue smallness of size and liability to structural developmental errors, defective brains display in some cases another important departure from normal standards, and that is in the relative proportions of pre-central (effector) area to post-central (receptor). On neurological grounds it would seem to be essential that the proportion of receptor to effector cerebral cortex should only vary within narrow limits, otherwise disturbed mental reactions would be commoner than they are. But these proportions do not appear to be known, so they were first worked out on the normal series of brains by recording the planimeter sums of cortical areas exposed on the surface of the dioptrographic tracings. These readings do not record the total amount of cortex, but only its exposed portions. As cortical sulci are more variable in the defective brain than in the normal, the comparison now to be established flatters the defective. These proportions were found to be as follows:

	Pre-central	Post-central
28 normals over 8 years old ...	38.71 %	61.29 %
55 defectives over 8 years old ...	37.54 %	62.46 %

Although the difference between the normal pre-central percentage (38.71) and the defective (37.54) may appear so slight as to be negligible, there is reason for believing that some neurological significance may attach to it, especially when it occurs in a brain already too small for

normal mental reactions. When this difference is still more pronounced it may be suggested that the "inhibiting" powers of the reduced pre-frontal area are insufficient to arrest or delay the stimulation of effector neurones by receptors. Such a cerebral construction would seem to suggest that such defectives should exhibit tendencies to exhaustion of effector neurones from non-inhibited stimuli (epilepsy), or even possibly some more or less permanent manifestation of diminished pyramidal tract control as in some of the so-called cerebral diplegias. Theoretical though the thesis is and was, it seemed worthy of further analysis, and was attempted on the following lines.

In delineating the frontiers of potential abnormality in relative proportions of pre- and post-central cortices, levels were selected one and a half and twice the standard deviations respectively. Among normal brains those that would fall outside these limits would be 14 per cent. and 4.5 per cent. respectively. Since several of these defectives were found to come into these categories, a re-examination was made of the clinical phenomena presented during life, and the interesting fact was revealed that they numbered some of the worst epileptics and "diplegias."

One of the last cases to be included in this series of defectives was a male aged 8.3 years, who died on March 17th, 1936, in "status epilepticus," having suffered from epilepsy all his life. This was obviously a test case. If, in this instance, the epilepsy was associated with a structural defect of disproportionate cerebral areas the theory could be maintained. Post-mortem examination showed that the pre-central area was indeed deficient by nearly twice the standard deviation. In this instance, then, the theory stood the test, and is, indeed, supported by other brains in the series.

Tentative Conclusions

These investigations, comprising as they do thirty-nine normals and seventy defectives, suggest that mental deficiency is in the great majority the result and consequence of a brain too small for its proper functions, and that this cerebral deficiency affects the whole central nervous system. That system should therefore display neurological clinical phenomena so closely resembling those produced by post-natal pathological lesions as to be mistaken for such—as indeed it actually does. Differently expressed, an underdeveloped central nervous system does not function properly, and this imperfect functioning resembles those disturbances produced in a previously normal nervous system which is the subject of diseased processes.

In addition to their mental state, the pronounced epileptic and diplegic phenomena presented by some, but not all, defectives may be due to, or aggravated by, abnormal proportions of the pre- and post-central cortices. Since most, if not all, these features of the defective brain are embryological in character and nature they are prenatal in origin, and are not so commonly due to "birth injuries" as is generally supposed. If, therefore, mental deficiency be defined, as it now well may be, as a departure from the normal standards of normal growth, the genetic factors concerned would appear to be those associated with growth in general and not mentality in particular.

That the basal ganglia share, with the cortex, a diminution in size is only too probable, though the point has not yet been fully examined. Since the striate body is a derivative of the neopallium it is difficult to realize how it could fail to share in this reduction. If this be true it is not unlikely that some pathological states usually regarded as symptomatic of striatal disease may really be indicative of a much broader and more widespread affection of the nervous system as a whole, especially of the neopallial cortex.

Microscopical Features

The microscopical features of these seventy defective brains are also under investigation by Drs. R. M. Norman and A. L. Taylor, but such inquiry is necessarily longer and more laborious, on account of its greater difficulties, than the simpler and informative macroscopical examination. It is, however, possible to give, under this head, a generalized conception of the results obtained up to date on this material by Dr. Norman and his colleague.

Notwithstanding that instances have been found where the defective supragranular cortex is thinner than normal, micrometric measurement of the cortical laminae shows, on the average, no significant difference in the mean between defectives and normals. In this respect these findings differ from some of those of the earlier observers. On the other hand, these investigations strongly support the view that a disorderly arrangement of the cells of the cortex is a feature of defective brains. In fact it is by these qualitative changes that the defective cortex may most easily be distinguished from the normal. The defective cortex shows many variations from the normal in its cellular construction, more especially in the supragranular layers. Thus in some there are very small supragranular neurones with a reduction in the amount of stainable cytoplasm in the third lamina. In others there are greatly increased numbers of pyramidal cells per unit of the count.

Again, a textbook normal cortex is commonly encountered in the normal controls but is not found in the defective range, and the latter tend to show abnormal cyto-architectonic features more frequently than the former. While the purely cytological approach to the detection of cortical differences between "poor" normals and "good" defectives can never be easy, and may, indeed, escape us altogether, it is nevertheless permissible to suggest, as does this investigation, that in the majority of defective brains there has been some inhibition or distortion of the factors making for normal neuronic growth and organization, in consequence of which the defective neurone is less resistant to noxious influences than are those of more normally constructed cortices.

Relation of Brain Size to Head Size

The product method is as applicable to the living head as it is to the brain, since the procedure is precisely the same for both. That is to say, the length, breadth, and height are measured and multiplied together, the first three figures of the sum being taken as the "product."

It has already been shown that brain growth practically ceases in normal children between the eighth and eleventh years of life, whereas the head continues to show some slight increment in size for some years afterwards. During the period of brain growth there is therefore a distinct and measurable relationship between head size and brain size. It obviously becomes of clinical importance to know whether the child's brain is or is not keeping pace with its chronological years, and this fact may be ascertained, within the limits of our present knowledge, from head measurement.

What, then, is the proportion of brain size to head size? That the proportion can never be constant is obvious, because the size of head, though largely reflecting that of the brain, is disturbed by other factors, such as thickness of skull, thickness of integuments, temporal muscles, and even by unduly large sinus development over the glabellar region.

The Burden Mental Research Trust staff has worked out the head products of the 10,000 Australian children and young adults published some years ago by Berry and Porteus. It found so close a similarity between these figures and those it obtained by similar methods on a smaller group of English school children of comparable age as to justify their retention for the basal purposes of the comparison of brain size with head size. Taking the curve for brain products as ascertained from the thirty-nine normals of the present investigation as the standard of comparison, it has been found that an almost exactly synchronous curve is obtained by taking 35/48 of the Australian children's head products as an index of their brain size. This proportion would then seem to be a close approximation to the actual proportion of brain size to head size. Since such a degree of accuracy would not be required for clinical purposes, the proportion of brain size to head size may be roughly assessed at two-thirds.

A living defective, aged 8 years, was found to have a head product of 177 (length × breadth × height). Two-thirds of that is 118, which is approximately the brain size of a normal human infant of 2 months old. As this child has already passed the age when brain growth ceases it would seem unreasonable to spend time, money, or labour endeavouring to "educate" such an imperfectly constructed individual. No educationist should wasts his time endeavouring to teach the rudiments of the three R's to a 2-months-old infant; yet to make the attempt on older defectives of similar cerebral rating seems to be the rule rather than the exception. It thus seems probable that these facts, when sufficiently well established and appreciated, will enable a scientific separation to be made between the "educable" and the "ineducable"—and these classes are not confined to certified and segregated defectives—with a corresponding diversion of labour into more profitable channels.

The product method of estimating the probable size of brain from that of the head of the living individual would thus seem to have a wider applicability than the restricted fields of mental deficiency, for the latter is but a pointer to the larger world beyond.

THE MIRROR TEST IN PULMONARY TUBERCULOSIS

BY

R. C. COHEN, M.D., D.P.H.

MEDICAL OFFICER IN CHARGE OF THE PULMONARY WARDS, BLACK NOTLEY SANATORIUM

AND

W. BURTON WOOD, M.D., M.R.C.P., D.P.H.

PHYSICIAN TO THE VICTORIA PARK CHEST HOSPITAL; CONSULTING PHYSICIAN FOR DISEASES OF THE CHEST TO THE ESSEX COUNTY COUNCIL

Radiological advances have in recent years led to a neglect of sputum tests. This is partly because the finding of bacilli merely indicates the presence of disease while the skiagram indicates not only its presence but, within limits, its extent and character. But though radiographic appearances may be so characteristic that they seem only to admit of one interpretation, probability rather than certainty is all that we can gauge from the average skiagram, and the last word remains with the bacteriologist.

The collection of sputum for examination is often a matter of difficulty. The patient who suffers from an only too well founded phthisiophobia may show small desire to supply a rope to hang himself. He may forget to return the sputum outfit or send back a sample of saliva. On the other hand the eagerness of the phthisiophilic to prove himself a suitable subject for compensation may induce him to fill his sputum bottle with sputum bought or borrowed from a consumptive friend, an artifice said to have been frequently adopted in military hospitals during the world war. A further disadvantage attaching to the sputum test as usually carried out is that it causes a delay in diagnosis that may be embarrassing to the practitioner and distressing to the patient. Nor is sputum always available, for it may be negligible in amount or unconsciously swallowed. As a short cough may spray a mirror with tubercle bacilli at a stage of disease when expectoration is absent, it is evident that portions of the air-way may be teeming with bacilli which will remain undetected if the usual vehicle for their discovery is lacking. This is perhaps especially so when expectoration has been abolished by collapse therapy, a method of treatment which also prevents radiographic exploration of the lung fields.

Laryngeal Mirror Method

A device which permits the immediate examination of secretion obtained directly from the air passages and which is more accurate than the ordinary sputum test seems worthy of consideration. It is many years since Sir James Dundas-Grant pointed out that the ejection of pulmonary secretion may be provoked by the sudden inhalation of volatile mustard oil and that secretion may often be obtained by this means in apparently "unproductive" cases. In describing this method he mentioned that a laryngeal mirror might also be used to obtain samples, but his advice has been strangely neglected and the more elaborate and less reliable method of bacteriological examination of the faeces is usually recommended when sputum cannot be obtained. This method is only suitable for use in institutions and is not practicable for dispensary or surgery work. Apart from the difficulty of collecting suitable samples the isolation of organisms from stools demands much time and special skill and, even if acid-fast bacilli are at length demonstrated, some doubt as to their origin and significance must remain. Having lately employed the laryngeal mirror method and found it satisfactory, we feel that a short note on the results of our experience may be helpful to others.

The technique is simple. The test should, when possible, be carried out in the early morning. The patient and examiner sit as for ordinary indirect laryngoscopy and a large-size mirror—for example No. 6—is held with its surface horizontally above the larynx. The patient is instructed to give several short barking coughs, and the mirror is thus sprayed with bronchial secretion. It is then withdrawn along the roof of the mouth, care being taken to avoid brushing its surface against the tongue. Flecks of yellowish secretion of pin-head size are characteristic though not typical of tuberculous expectoration. Mucoid or watery secretion usually but not invariably yields a negative result. The flat of the mirror is now applied to one end of a slide and drawn along it, leaving a thin film which is dried and stained in the usual manner. The possibility that the slide may be contaminated when the mirror has been used in a previous test is remote, but careful sterilization of the mirrors is essential. Dr. Hebert has suggested to us that the use of the all-metal mirrors now sometimes employed for indirect laryngoscopy might be a useful safeguard.

Comparative Results

The results obtained from a small series of mirror tests will show the usefulness of the method, and though statistical significance cannot be claimed for a limited number of tests it seems probable that a more exhaustive trial would prove that this method is more accurate than sputum examinations as ordinarily carried out.

The patients supplying the material were women suffering from pulmonary tuberculosis. Most belonged to the adolescent and early adult group, and the disease was

of early or early intermediate type. Two hundred tests were carried out each consisting of a mirror test with a sputum test as control when sputum was available, the sputum being taken at approximately the same period and in all cases within the same week. The material was supplied by seventy-five patients.

In sixty-one of the tests material containing pus cells and sometimes elastic fibres was found on the mirror from patients who stated that they were unable to raise sputum. In sixteen of the sixty-one tests referred to above tubercle bacilli were demonstrated. They were also demonstrated in ten mirror tests from patients who at a corresponding time had "negative" sputum. This represents an increase in accuracy of 13 per cent. as the result of using the mirror test. On the other hand no material was obtained on the mirror in eleven tests and in three cases material collected yielded a negative result although tubercle bacilli were demonstrable in the sputum—that is, in 7 per cent. the mirror failed to show tubercle bacilli in "sputum positive" cases.

Comparative Table

Mirror, T.B. positive ...	"No sputum"	16	13%
Mirror, T.B. ,, ...	Sputum, T.B. negative ...	10	
Mirror, no secretion ...	Sputum, T.B. positive ...	11	7%
Mirror, T.B negative ...	,, ,, ,, ...	3	
Mirror, T.B. negative ...	"No sputum"	45	
Mirror, T.B. positive ...	Sputum, T.B. positive ...	26	
Mirror, no secretions or T.B. negative	"No sputum" or sputum T.B. negative	89	

Total 200

It should be noted that in this series a sputum test implies expectoration collected during a period of about twenty-four hours, while the mirror test only represents the matter ejected as the result of two or three coughs voluntarily made at a time when expectoration would otherwise not have occurred. The scales were thus weighted heavily in favour of the sputum test, and the results of the mirror tests are the more striking. Despite this, if we take the total number of tests, a positive result occurred forty-nine times in the mirror group while an equal number of sputum tests only gave thirty-seven. The increase in accuracy obtained by this simple means may be compared with the result of the more elaborate methods of sputum concentration. Dr. H. G. Frayer, in a recent report to the Joint Tuberculosis Council, stated that by the application of a modification of the Pottenger method he had been able to demonstrate tubercle bacilli in twenty-two out of 121 otherwise "negative" cases—an increase in accuracy of just over 18 per cent.

Conclusions

1. The examination of secretion ejected directly from the lungs and collected by a mirror held over the larynx is a quick and convenient method of demonstrating tubercle bacilli.

2. The mirror test frequently enables the confirmation of a diagnosis of pulmonary tuberculosis suggested by history, symptoms, or physical signs to be made without the delay which must occur when the patient is given a sputum outfit. Difficulties in securing the return of sputum flasks by post are obviated. This advantage will be especially appreciated by those who work in country districts or among uncivilized communities.

3. Malingering may be circumvented and the patient who consciously or unconsciously swallows his sputum may be induced to supply a sample of pulmonary expectoration by this means.

4. Compared with the ordinary sputum test the mirror test, to judge from our limited experience, is more delicate, and it may enable such accessory methods of examination as gastric lavage and bacterial investigation of the stools to be dispensed with. Though less delicate than the sputum concentration test it can be used when no sputum is available for that purpose.

Our cordial thanks are due to Dr. W. A. Bullough, County Medical Officer for Essex, and to Dr. M. C. Wilkinson, Medical Superintendent of the Black Notley Sanatorium, for providing facilities for our work.

CONSERVATIVE TREATMENT OF LARYNGEAL DIPHTHERIA

BY

JAMES HAY CLARKE, M.A., M.D.,
D.T.M. AND H., D.P.H.

MEDICAL OFFICER OF HEALTH, SCUNTHORPE AND FRODINGHAM URBAN DISTRICT COUNCIL; MEDICAL SUPERINTENDENT, SCUNTHORPE INFECTIOUS DISEASES HOSPITAL

It may be of interest to record my experience of the treatment of laryngeal diphtheria from August, 1930, to April, 1936. The Scunthorpe Infectious Diseases Hospital has a cubicle block of eight beds available for the treatment of diphtheria, and serves an urban and rural population of approximately 60,000. During the past six years the incidence of diphtheria in the area has been low, but there have been a few outbreaks of a localized character occurring in different parts, with comparatively high mortality.

During this period eighteen cases of laryngeal diphtheria were admitted to the hospital. Another case in the area, owing to temporary lack of accommodation, was sent direct to a neighbouring isolation hospital. Tracheotomy was performed in this institution, but with fatal result.

A considerable proportion of the eighteen cases were admitted to hospital after the notifying practitioner had expressed the opinion that tracheotomy was required and should be carried out after admission. In two instances while I was on vacation tracheotomy was performed by my late deputy. One of the patients was admitted in a very toxic condition, well advanced in the third stage of croup. Both patients died shortly after operation.

Analysis of Cases

So far as the other sixteen cases were concerned all were successfully treated by conservative measures and all were eventually discharged cured. Upon admission each case was immediately treated by steam kettles, an adequate dose of antitoxin was administered, and a mixture of tinct. belladonnae and tinct. camph. co., 5 minims of each to one teaspoonful of water, was administered four-hourly. In a few cases hypodermic injection of camphor and/or brandy orally were also given.

Of the two children who died after tracheotomy in the institution one was a female aged 6 and the other a male aged 4. The former had had an injection of 10,000 units of antitoxin prior to admission. Of the sixteen patients who recovered, all were admitted in the second stage of croup with moderate or severe recession of the soft parts of the thorax. More or less frequent paroxysms were general, some of the patients being very distressed at times, with poor colour, occasional cyanosis, and weak, rapid pulse.

The age incidence of the sixteen cases was as follows:

Age	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	11-12
Cases	1	2	2	2	1	3	3	1	1

Nine were males and seven were females. Eight had diphtheria antitoxin administered prior to admission to hospital, ranging from 8,000 to 24,000 units. In all cases antitoxin ranging from 16,000 to 64,000 units was administered after admission to hospital. Nine had on admission small patches of membrane on one or both tonsils. In one case the uvula was also affected. Swabs were taken in only three of the cases, but in each instance was positive.

There is no resident medical officer in this institution, but the patients were visited by me as often as was thought necessary. Steam was discontinued in fourteen of the sixteen cases in from two to three days. In one case it was discontinued after one day and in the other after five days. The administration of the mixture of tinct. belladonnae and tinct. camph. co. was discontinued in from two to three days after admission. The period of stay in hospital ranged from twenty-two to fifty-two days; exceptionally in two cases sixty-two and seventy-one days. These two patients were detained on account of septic conditions of the skin, which developed toward the end of convalescence. Three developed a serum rash.

Lemariey and Hamon[1] have classified the various forms of croup into the following groups: (1) benign, (2) severe, (3) septic, (4) tracheo-bronchial diphtheria, (5) infantile croup. With regard to operative treatment of laryngeal diphtheria, cases may be treated by aspiration, by intubaton, or by tracheotomy. The authors above mentioned consider that aspiration in the five groups gives the best results in cases of tracheo-bronchial diphtheria.

Intubation is an operation which requires some manipulative skill. After the tube has been inserted re-intubation may be required. Complications such as heart failure may occur during intubation, and stenosis of the larynx after extubation. On the other hand, intubation may have to be followed by secondary tracheotomy. As compared with tracheotomy, intubation is no doubt to be preferred, there being no surgical preparation of the patient required and less risk of the occurrence of pulmonary sequelae.

Porter[2] states that the indications for operative intervention depend largely on whether the patient is treated at home or in hospital. In the former case if there is definite dyspnoea, or one severe paroxysm of coughing, tracheotomy or intubation should be carried out. In private practice, it is stated, tracheotomy is preferable "unless skilled aid will be forthcoming to replace the tube in the event of its being coughed up."

The mortality of cases of tracheotomy is undoubtedly very high, on an average probably 50 per cent. or over. Moreover, the complications or after-effects which may occur as a result of the operation are serious. Results such as pulmonary sequelae, retained tube, granulations, or ugly scars render it an operation to be avoided if at all possible.

Factors in Conservative Treatment

So far as the conservative treatment of laryngeal diphtheria is concerned immediate administration of tinct. belladonnae and tinct. camph. co. when the patient is admitted to hospital appears to have a definitely soothing effect. The medicine helps to prevent spasms or modifies their effects. On occasions the medicine was pushed by shortening the interval between the doses. In my experience total occlusion of the respiratory passages did not occur, and in most instances it was possible for the patient to overcome a very considerable degree of partial obstruction. It is necessary, however, for adequate dosages of antitoxin to be given, and that the patient should be placed under favourable conditions. Skilled nursing is an important factor in assisting the child to overcome restlessness, bouts of spasm, and dyspnoea.

A child suffering from laryngeal diphtheria is generally in a state of nervous apprehension upon admission to hospital. Admitted into unaccustomed surroundings, with strange nurses in attendance, it may become panicky after an injection of antitoxin. The child is usually afraid also of the administration of steam and of its paraphernalia. At first it may not take steam well, and even attempt to push away the apparatus. During this period the patient may easily become worked up into a state of spasm of the glottis in which tracheotomy may appear to be urgently necessary.

On the other hand, the immediate administration of tinct. belladonnae and tinct. camph. co. has a soothing effect. It is agreeable to take. The patient's anxiety is soon allayed, and thus the medicine prepares the patient for the administration of steam. In fact, with this medicine children often fall into a restful sleep, with the mouth open. In any event, whether awake or asleep, the amount of steam can, if required, be increased without distressing the patient. During bouts of spasm, occurring in the severe cases up to two days after admission to hospital, no restriction was placed upon the patient's movements. The child was sometimes temporarily nursed in a sitting position, and occasionally lifted out of bed, with no harmful after-effects apparent.

Conclusion

The prognosis of laryngeal diphtheria generally is grave, the death rate ranging from 18 to 40 per cent. in different series of cases reported. It may be that the series of sixteen cases I have quoted may not be sufficiently large in number or representative enough to enable one to express an unqualified opinion on the value of conservative measures in the treatment of laryngeal diphtheria. I feel, however, that this series indicates that unnecessary operative intervention can and ought to be avoided. There may be nothing novel in the remedies mentioned, but the systematic application of these has in this series of sixteen cases produced a result which could not be improved. Resort to operative procedures in some of these cases might have produced 100 per cent. cures, but would not have borne comparison in the disturbance to the patients and the cosmetic results obtained in the case of tracheotomy.

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The new issue of the quarterly *Bulletin of the Imperial Institute* (vol. xxxiv, No. 2, April–June, 1936) includes a report on samples of chaulmoogra oil obtained from the seeds of species of *Hydnocarpus* received from Nigeria, Malaya, and Ceylon. Attention is called to the efforts being made in many of the tropical colonies to produce their own supplies of this oil, which is used in the treatment of leprosy. Hitherto the oil has come from India, but the results published show that the oil contained in the seeds of *Hydnocarpus wightiana* from the colonies mentioned conforms with the requirements as set out in the *British Pharmacopoeia*. It has become increasingly evident in recent years that something more than the three major fertilizing constituents, nitrogen, potassium, and phosphorus, must be added to the soil if a satisfactory standard of fertility and crop growth is to be maintained. A brief article summarizes the available information on minor fertilizer materials, some of which have a direct or stimulating effect on the plant itself, while others known as soil amendments indirectly produce an effect on the crop by modifying conditions in the soil. Reference is also made to deficiency diseases caused by the lack of sufficient available elements in the soil, such as magnesium, sulphur, iron, manganese, copper, and zinc.

THROMBOSIS OF THE AXILLARY VEIN

BY

M. C. OLDFIELD, B.M., B.CH., F.R.C.S.
RESIDENT SURGICAL OFFICER, THE GENERAL INFIRMARY AT LEEDS

AND

L. N. PYRAH, M.Sc., CH.M., F.R.C.S.
HONORARY ASSISTANT SURGEON, THE GENERAL INFIRMARY AT LEEDS

The remarkable condition of primary thrombosis of the axillary vein has been shown in recent years to be less rare than was previously supposed ; it is possible also that many of the cases escape recognition.

Aetiology

Active young men suffer most, and the right arm is usually affected in right-handed people. Pearce Gould and Patey in 1928 reported eight cases, and in a review of the literature they referred to thirty-two others. The patients in these cases were between the ages of 20 and 40—except for a girl of 11 years (Rosenthal)—and most were between 20 and 30. Since the paper by Pearce Gould and Patey, Firth and Mackay have recorded a case in a girl of 19 ; after stirring a plum pudding her right arm became swollen, and eighteen months later thrombosis occurred in the left axillary vein. Taylor describes two cases in Cambridge rowing men, both aged 19. In most of the recorded cases the patient has experienced some slight trauma or has performed some unusual task, very often involving a series of sudden muscular efforts with the arm in full abduction. Examples of such muscular efforts have been: cleaning a ceiling, lifting heavy jars on to a high shelf, hanging curtain rods, and rowing in a race. Other recorded traumata have been: riding a restive horse, getting out of bunkers in a round of golf, lifting bales of cloth, and heavy work with a hammer.

There may be a history of some mild infective condition preceding the onset without evidence of previous trauma ; such conditions have been a sore throat, an infected tooth or socket, a boil, or a septic abrasion of the hand on the affected side. It is a remarkable fact that in nearly every case the patient first notices that the arm is swollen on waking in the morning. It seems possible that there may be some other factor responsible for the onset of the thrombosis. Possibly pressure may be exerted upon the axillary vein during sleep, either by constriction of the vein by a "rucked up" pyjama sleeve or by lying in bed with the arm in an unusual position.

Trauma appears to be a very important aetiological factor, but the mechanism of the trauma is not completely understood. The injury follows exertion involving extreme abduction of the arm. For instance, at the end of a rowing stroke the clavicle is pulled downwards and backwards, the anterior scalene muscle, the subclavius muscle, and the costo-coracoid ligament causing pressure on the axillary vein. During extreme respiratory efforts the axillary vein becomes distended and liable to injury. Probably the fundamental lesion is a tear of the intima of the vein or a rupture of the subclavio-axillary valve. After such an injury organisms are carried in the blood stream from a distant infective focus and settle at the site of the injury, where a mild type of thrombophlebitis commences. Patey and Pearce Gould injected plaster-of-Paris into the axillary vein of the cadaver, and grooves were found on the vein in the region of the costo-coracoid ligament after extreme abduction of the arm.

Clinical Course and Treatment

The symptoms in various cases are often very similar. Usually the patient, on waking in the morning after some unaccustomed exertion on the previous day, notices that his arm is swollen and blue. It feels stiff, but is not very painful. On examination the arm is oedematous and cyanosed, and dilated collateral veins are visible over the shoulder region. The axillary vein is palpable as a hard, tender cord, but the radial pulse is not affected. Special examinations may reveal some hidden infective focus in the teeth or throat. The oxygen content of the venous blood on the affected side is less than that on the opposite side. The skin temperature of the affected side is half to one degree lower than it is on the normal side.

Treatment is conservative. The patient is kept in bed with his arm raised on pillows, and pressure is applied to the limb by means of alternate layers of wool and flannel bandage. Septic foci are treated. At a later date, after the swelling has begun to subside and the acute condition has passed, massage and gentle exercises are useful to reduce the swelling. Operative intervention is dangerous ; removal of the clot has been performed, but this procedure is unnecessary, and may result in pulmonary embolism.

The end-results are favourable. After two or three weeks' rest the swelling begins to subside. In six months the collateral circulation is established, and the patient in most cases is fit to resume his old activities.

Case Report

The patient was a welder and lorry driver, aged 20. Three days before admission to the General Infirmary at Leeds he woke up in the morning to find his right arm swollen and stiff ; it was not painful. The swelling had neither increased nor decreased since he first noticed it. There was no history of an accident or of any unaccustomed exertion ; he had had no sore throat and no other acute infective condition immediately preceding his illness.

On admission on December 11th, 1933, the patient was found to be a well-built man and to be in excellent general health ; temperature, pulse, and respiration were normal. On the sixth day there was a slight rise of temperature (99°). Pyorrhoea alveolaris was marked, and pus could be squeezed from the sockets of the lower incisors. Examination of the throat revealed nothing abnormal, and no abrasion was detected on the right hand or forearm. At the level of the widest part of the biceps the circumference of the right arm measured three inches more than the left, while there was a difference of two inches in the circumference of the widest parts of the forearms. The patient was right-handed. Pitting was present but was not marked. The superficial veins were swollen over the shoulder and on both axillary folds, while the axillary vein was tender and could be palpated as a hard, solid cord. There was tenderness in the supra-clavicular fossa over the lower part of the right internal jugular vein. There was no difference in the two radial pulses. A culture of the pus from the gums produced a growth of *Streptococcus viridans* and staphylococci. A culture from the tonsils yielded a growth of Friedländer's pneumobacillus. The Wassermann reaction was negative. The blood count was as follows: total leucocytes, 9,000; haemoglobin, 86 per cent. ; red blood cells, 5,290,000 ; and colour index, 0.81.

Treatment and Subsequent Progress

The patient was treated by rest in bed. The arm was elevated on pillows and was bandaged firmly with alternate layers of wool and flannel bandage. Calcium lactate was given by mouth. After six weeks gentle massage was applied to the arm. The patient was discharged from hospital seventeen days after admission ; the condition of the right arm was much improved, but it was still more swollen than the left.

When he was seen ten months after the onset of the condition he was doing his old work without difficulty. The right arm was still larger than the left, and measured two inches more round the biceps and one inch more round the

widest part of the forearm. There was no pitting. The axillary vein was still palpable and cord-like. The superficial veins were more prominent on the right shoulder than on the left.

Summary

The aetiology of primary thrombosis of the axillary vein is discussed. One case is described, and in the appended bibliography twenty-three others are collected since the exhaustive study made in 1928 by Pearce Gould and Patey on eight of their own cases and on the thirty-one other cases reported in the literature previous to this. It is suggested that pressure on the axillary vein by constriction of a pyjama sleeve at night may cause the onset of the thrombosis in certain cases.

We are indebted to Professor H. Collinson for permission to publish this case, and to Mr. E. Pearce Gould for his kind advice.

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ACETYLCHOLINE IN TOBACCO AMBLYOPIA

BY

H. CAMPBELL ORR, M.B., F.R.F.P.S.

HONORARY SURGEON, WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY

In 1901 Parsons,[1] as a result of experimental work on rabbits, suggested that the defect in tobacco amblyopia was due in part to two causes: (1) constriction of the arterioles, which resulted in the starvation of the macular area, where the blood supply is poor; and (2) paralysis of the synapses in the cone fibres, or of the bipolars, or of both. For many years opinion favoured the degeneration of the nervous elements as the primary cause of the symptoms.[2] De Schweinitz stated: "The situation of the pathological process is in the optic nerve, and especially in that portion which is known as the papillo-macular bundle," but he added that the appearances were more like those of an interstitial sclerosing inflammation with secondary nerve atrophy than primary nerve atrophy with secondary interstitial change.

More recently some observers have inclined towards the opinion that the constriction of the arterioles from nicotine poisoning was the primary cause, and have based their therapeutic measures accordingly. In 1930 Pflimlin[3] reported fifteen cases treated with sodium nitrite in isotonic sodium chloride solution injected intravenously, and 50 per cent. of the eyes obtained 20/30 vision in five and two-tenths weeks. In 1932 Duggan treated six cases with sodium nitrite intravenously, and eight out of twelve eyes obtained 20/30 in three to fourteen days.

In 1935 Duggan[4] reported a series of twenty-four cases of toxic amblyopia due to excessive smoking, which he treated with a form of sodium nitrite known as nitroscleran, and reported marked improvement in the visual acuity, with corresponding reduction in the central scotoma. Twenty-one of these patients improved to 20/30 in eighteen and four-tenths days. Five of the patients actually continued smoking during treatment, but their average time of recovery to 20/30 was delayed to thirty-six days. Where the patients did not smoke recovery was completed in twelve days. These figures compare favourably with the older forms of treatment. Fuchs found the period before recovery in very mild cases to be from one to two months; Traquair cured mild cases in about six weeks, but reported that in severe cases two or three months might elapse before definite improvement began.

The following cases have been treated with acetylcholine, and this note is published so that other observers may try it and report results. The condition is becoming less frequent, and to wait for a larger number of cases may deprive many patients in other places of the advantages of this method. All the patients were advised to stop smoking, but abstinence was not complete.

A gate porter aged 63 attended the out-patient department of a hospital on October 24th, 1934, complaining of failing vision. The right vision was 1/60, with correcting glasses 6/60; the left vision was 1/60, c. gl. 6/60. He was treated with potassium iodide until November, 1934, when he stopped attending since he had made no improvement.

I saw him through the National Eye Service on July 15th, 1935, and diagnosed tobacco amblyopia. Vision was then with glasses 1/60 in each eye, with total loss of colour vision; 0.1 gram dose of acetylcholine was injected intramuscularly, and the patient was admitted to hospital on the following day, when the vision had improved to 4/60 in each eye. He was given intramuscularly 0.1 gram of acetylcholine (B.D.H.) daily, and after the third injection the vision with glasses was in the right eye 6/36 and in the left eye 6/24 L 1. On the 19th he was discharged with right vision 6/18 partly and left vision 6/18 partly. He attended daily for his injection, and resumed his work. On the fifth day he could recognize blue and yellow, but not red or green. On the tenth day the vision in each eye was 6/18, and this was maintained until August 13th, when the vision in each eye was c. gl. 6/12; he could identify red and green, and there was no sign of any scotoma. The acetylcholine was stopped, and he was given a mixture containing potassium iodide, potassium acetate, and sodium citrate, 5 grains of each to be taken three times daily. On August 27th the vision with glasses was 6/9 and J 1 in each eye, with perfect field of vision and colours.

A carpet weaver was seen by me through the National Eye Service on June 26th, 1935, complaining of failing vision for two years. The vision in each eye was 1/60. Both disks looked pale and atrophic, and there was a scotoma for all colours. He was given an injection of 0.2 gram of acetylcholine, and was admitted to hospital. On the 27th he received 1 c.cm. acecholin (Anglo-French Drug Co.), and the vision was then: right 6/36 (L 1) and left 6/18. The blood pressure was 160 mm. before the injection, and 140 mm. half an hour afterwards. The injection was repeated each day, and on July 2nd the vision was 6/12 in each eye. He was discharged on July 5th with vision 6/9 in each eye and a good colour response. He was given a mixture of potassium iodide with potassium acetate and sodium citrate, 5 grains of each to be taken three times daily, and attended at the out-patient department three days later for an injection. The vision in the right eye had dropped to 6/18, but the left remained at 6/9. Thereafter he had one injection each week, and admitted having had an occasional smoke. On July 30th he could see his wools at work, and the vision was: right 6/12 and left 6/6. Tested with Ishihara's test on September 24th, he showed some red-green blindness.

A man aged 60 was seen as an out-patient on July 23rd complaining of failing vision for a long time. The vision in each eye was 4/60. The blood pressure was 220/110. The right eye identified yellow only and the left eye saw it as

"brassy colour." The disks looked pale and the arteries sclerotic. There was an absolute scotoma for colour in the right eye, and a central scotoma for colour in the left eye. He was given 0.5 c.cm. acecholin intramuscularly each day, and on August 2nd there was a reduction in the scotoma in each eye, with vision 6/60. Thereafter he received 0.1 gram acetylcholine every second day, and on September 2nd colours were recognized centrally. From that date his attendance averaged once a week, when he received 0.1 gram intramuscularly. On October 10th there was no scotoma, and with correcting glasses he could see 6/12 with each eye. On the first day this patient had 5 minims of acetylcholine injected subconjunctivally without showing any improvement.

A patient aged 72 was sent to me by Dr. A. V. Russell with a history of recent illness and a very high blood pressure. He complained that after his illness his vision failed and colours were blurred. The vision in each eye with glasses was 6/12, and in each eye there was a central scotoma for colours. The fundus vessels were fine and sclerotic. Dr. Russell injected 0.1 gram of acetylcholine each day for six days, when the patient was seen again. He smoked only a few cigarettes in the interval. On the eighth day he could recognize all colours except blue centrally, and the vision with glasses was now 6/6. The acetylcholine was stopped. When seen on the twenty-first day all colours were recognized centrally and the vision was unchanged.

Summary

The first three cases may be termed chronic, and show progress as follows.

Case 1.—On the eleventh day vision was c. gl. 6/18, and the patient resumed work. On the nineteenth day vision was c. gl. 6/12, and on the twenty-eighth c. gl. 6/12, all colours being identified.

Case 2.—On the sixth day vision was 6/12 and the patient fit to resume work. On the eighth day vision was 6/12 (colours good), and on the ninth 6/9.

Case 3.—On the fortieth day vision was 6/36 without glasses: colours identified. On the forty-sixth day with 1.5 dioptres correction the vision was 6/12.

Case 4.—In this acute case on the seventh day the vision with glasses was normal, and all colours except blue were identified centrally.

Conclusions

The first three cases form a very severe test for any therapeutic agent in this condition, and I think it must be agreed that the results are exceedingly good. The result in the fourth case is also very satisfactory. If these results can be produced by other observers this is shown to be the best therapeutic agent we have at present for the treatment of tobacco amblyopia. I have also been using acetylcholine in the treatment of retinitis pigmentosa, and hope at a later date to publish some notes on cases.

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The Fédération des Unions Hospitalières de France has given place to a new organization—the Fédération Hospitalière de France. The original society, which had been in existence since 1924, was not completely national in character, excluding, as it did, Paris and the Paris region. The new society has a council of thirty-five members, five from each regional association and five from the Paris Public Assistance Board. The Federation, whose offices are at 4, Avenue Victoria, Paris, publishes every month *La Revue Hospitalière de France*. We are informed that the Minister for Public Health has promised his official patronage and the co-operation of the Ministry at the fifth International Hospital Congress, to be held in Paris in 1937. An organizing committee is to be nominated, including Dr. René Sand, M. Sarraz-Bournet, and Dr. Alter as liaison officers to the International Hospital Association.

Clinical Memoranda

Prophylaxis in Puerperal Sepsis and Pyrexia

In making a further contribution in regard to the use of calcium sulphide as a prophylactic against puerperal sepsis[1] I am now reviewing the cases that have been treated from January 1st, 1935, to April 16th, 1936. There have been admitted to this institution during that time approximately 1,850 cases for confinement and 230 cases of abortion, a total of 2,080, and my results are even better to-day than they have been at any time since calcium sulphide was used during the fourteen months previous to this review.

In commencing the use of calcium sulphide I was inclined not to overstep the pharmacopoeial dose of 1/2 grain twice or thrice daily, because there was always the possibility that with a new venture of this sort something untoward might happen to either the mother or the baby. To-day the dose of 1/2 grain is replaced by doses of 3 grains twice daily, in either pill or capsule form, preferably in pill form, because in a capsule the calcium sulphide has to be suspended in oil—the oil sometimes causing a degree of nausea. In complicated cases, such as the toxaemias of pregnancy, haemorrhage, lacerations of the soft parts, and in cases of delayed labour where a degree of shock exists, 3 grains are given four times daily.

During the period under review there have been notified to the local supervising authority fourteen cases of puerperal sepsis—all infected before admission—and recovery has occurred in every case, with one exception—namely, a case of severe pyelitis, eclampsia, and delivery by craniotomy (already referred to in my previous communication)—giving an incidence rate of 6.8 per 1,000, while other cases recorded as "puerperal pyrexia" numbered eleven in all, giving a total notifiable rate of 11.8 per 1,000, with a death rate of less than 0.5 per 1,000.

It is interesting to note that the cases of puerperal sepsis were of a mild or moderate nature, with one exception. I can also add 1,000 cases occurring consecutively in the previous year (1934), and that added to the present series would give a maternal death rate of 0.3 per 1,000, whereas the previous death rate over a period of seven years (1927 to 1933) was 5.3 per 1,000.

During the previous seven years the same precautions were taken, with the additional use of (*a*) puerperal antitoxin; (*b*) vitamins A and D, in the form of adexolin; (*c*) swabs soaked in acriflavine, 1 in 750 aqueous solution, per vaginam at the beginning of the first stage and repeated during the second stage. Those forms of treatment were costly, and for antitoxin alone up to £3,300 in the years 1932–3 was spent for nearly 1,000 cases of confinement, while the cost involved for 1,500 confinements using calcium sulphide prophylactically would not exceed £100 per annum.

It may interest the reader to know that cases admitted to this institution are not selected cases; 60 per cent. of all cases are "booked" and have ante-natal supervision, but 40 per cent. are emergency cases. Lanarkshire probably has a greater percentage of complicated confinements than any area in Great Britain, and the fact that the local authority's area is one of the districts stricken with unemployment tends to handicap the work, and the malnutrition consequent on prolonged unemployment renders the patients more susceptible to puerperal infections.

[1] *British Medical Journal*, 1935, ii, 1070.

Of the cases admitted during the period under review the list detailed below shows the complications dealt with.

Ante-partum haemorrhage	36
Post-partum haemorrhage	18
Craniotomy	9
Abnormal presentations	91
Rupture of the uterus	2
Adherent placenta	10
Eclampsia	13
Pre-eclamptic toxaemias	126
Abortions (with or without elevations of temperature on admission)	230
Inductions of labour (for various conditions) ...	103
Advanced cardiac disease	24
Caesarean and abdominal sections	34
Total	696

During this period fifty-five blood transfusions were carried out, which in itself is an indication of the severe illnesses dealt with.

H. J. THOMSON, M.D., M.C.O.G.
County Maternity Hospital, Lanarkshire.

Chlorosis and Epilepsy

Chlorosis in these days is so uncommon that it seems worth recording this case with the symptoms and response to treatment.

CASE REPORT

A schoolgirl, aged 13 years, was being treated for epileptic fits; these had come on seven years before, shortly after an operation for the removal of tonsils and adenoids, but had been controlled for three years by a bromide mixture. In January, 1935, she had a typical major attack a few weeks before the commencement of menstruation. This was followed by another attack, in spite of an increased dose of bromide, so she was put on luminal, 1/2 a grain twice a day. It was noted at the time that the girl looked anaemic, but the mother declared that she had been like that for many years, and as she was carrying on a normal school life nothing further was done about the anaemia. As the luminal controlled the fits she was not seen again till May, when she complained of depression; on further questioning she was found to have the following symptoms: lassitude, "giddy headaches," marked constipation, and indigestion. Curiously she did not complain of dyspnoea on exertion; in fact, she had just won the high jump at her school sports.

On examination her face was deathly white, the mucous membranes bloodless, and the sclerotics a bluish colour. A blood count was done, and the report was as follows: "Red blood corpuscles 4,000,000 per c.mm., haemoglobin 45 per cent., colour index 0.56; anisocytosis and poikilocytosis; the white cells show a slight increase of lymphocytes." Administration of iron was begun at once in the form of colliron (Evans Sons Lescher and Webb); this preparation contains 6 grains of pure iron in a 1 drachm dose, the equivalent of twelve Blaud's pills. One drachm a day was the commencing dose, and this was increased by 1 drachm each week till she was taking 5 drachms a day.

In August, exactly three months later, her blood picture was as follows: Red cells 4,800,000 per c.mm., haemoglobin 96 per cent.; so she had easily doubled the haemoglobin content of her red cells in three months. In spite of the large doses of iron, the obstinate constipation disappeared entirely. There is now no indigestion, and the child has put on over a stone and a half in weight; there is also, as would be expected, a great increase in her brightness and intelligence.

COMMENTARY

The mother dates the onset of the anaemia from the time of the operation in 1928, just prior to the first epileptic fit, and there seems to me to be a definite connexion between the two. I should mention that the luminal treatment has not been stopped, and I am loath to leave it off in case of precipitating a further attack.

I am indebted to Dr. Varley for the blood examinations.

A. H. DUNKERLEY, B.Ch.Camb., M.R.C.S., L.R.C.P.
Westerham.

Reviews

OBSTETRICAL PRACTICE

American writers of textbooks have accustomed us to expect from them a lavish display of well-executed illustrations which is at times counterbalanced by a certain restraint in the use of description and discussion. Professor ALFRED C. BECK of Brooklyn appears to have reached the zenith of this type of instruction in his recently published *Obstetrical Practice*.[1] This large volume of 702 pages is decorated with 1,043 illustrations; nearly all are simple line drawings, and the author tells us that most of them were drawn by himself, although they were "gone over by a professional illustrator" in order that they might not present an "amateur character." The free use of the pictorial method, it is claimed, has made lengthy descriptions unnecessary. As an example we may mention that the mechanism of labour in the L.O.A. position is illustrated by fifty outline drawings and described in thirty lines of text.

In his preface the author says that the book is intended for students and young practitioners. This is probably regarded as sufficient justification for deciding not to "discuss conflicting factors which have led to controversy." A teacher's duty is but imperfectly realized, however, if nothing is attempted beyond the concise presentation of accepted data. The higher aims of teaching should not be ignored—namely, to arouse the intellectual interest of students and lead them to exercise their powers of reason, deduction, and imagination. Teaching which falls short of this is for the tutor rather than for the professor.

Within these self-imposed limitations Professor Beck has produced an attractive book, eminently practical and shorn of all scientific nonsense. The cuts that he has been compelled to make, however, leap to the eye in certain parts; thus the fascinating story of the part played by the hormonic influences which control the menstrual cycle has received very short shrift. Admittedly the story may not have yet assumed its final form, but there is a solid basis of experimental observations to support its main features. Is it not worth the while of the American student to make the acquaintance of these observations, at any rate in outline? It may, however, be granted that the author has gone a long way towards achieving the almost impossible task of presenting conclusions in an interesting form without at the same time setting out the scientific reasoning upon which they are based.

Professor Beck's treatment of the subject of eclampsia is perhaps the best example to take of his method. To the aetiology of the condition are allotted a bare ten lines of text, which end with the words "eclampsia has accordingly been called the disease of theories." In contrast the description of the pre-eclamptic state and its treatment is full and admirable; the eclamptic seizure is briefly but graphically described, and the treatment of convulsions is dealt with in detail. A routine method of treatment is outlined which the author has followed in his clinic in seventy-seven cases, with a maternal mortality of 6.5 per cent. Such unusually favourable results certainly justify the confidence with which he commends it to his readers. Two points in his method deserve mention on account of their drastic character. After the first convulsion 1/2 grain of morphine is given hypodermically, followed by 1/4 grain every half-hour until the convulsions cease. After the first dose of morphine 1,000 c.cm. of blood are withdrawn from the median basilic vein, and the warning is given that arrangements should

[1] *Obstetrical Practice*. By Alfred C. Beck, M.D. London: Baillière, Tindall and Cox. 1936. (Pp. 702; 1,043 figures. 32s. 6d.)

be made for a donor of blood to be available in case post-partum bleeding occurs.

As regards externals the volume is a very handsome one, and does great credit to the publishers. The text is clearly printed and liberally spaced, with a free margin of one and a half inches on three sides of the page. Its weight is a little over five pounds, and it is emphatically not a book to be read in an armchair.

THE BROMPTON HOSPITAL REPORTS

With one important exception the fourth volume of the *Brompton Hospital Reports*,[2] like the volumes previously issued, contains papers recently published elsewhere by the staff of the hospital and of the sanatorium at Frimley. The important statistical analysis by Sir Percival Hartley, Dr. Wingfield, and Mr. Burrows of over 8,000 patients treated at the Frimley Sanatorium ("The Expectation of Survival in Pulmonary Tuberculosis") had not appeared before, and has already formed the subject of a separate annotation in these pages (March 21st). The remainder of the book consists of papers chiefly on the clinical aspect of various diseases of the chest. Several of these originally appeared in our Treatment in General Practice Series · others in special numbers of the *Practitioner* and the *Post-Graduate Medical Journal* on diseases of the chest and on thoracic surgery. The subjects in these articles have been handled in a thoroughly practical manner, and expose mostly the personal views of practising physicians and surgeons, authoritative in this country.

Two papers not included in the above deserve special mention. Dr. Burrell's presidential address to the Tuberculosis Association on "Reinfection in Tuberculosis" represents a philosophical digression which will appeal to the more thoughtful students of the disease. Dr. Maurice Myers's article entitled "Significance of Pyrexia in Chronic Pulmonary Tuberculosis" is a piece of clinical research—of the kind eagerly demanded nowadays—which should prove of much assistance to clinicians responsible for the treatment of consumptives. Finally, in view of the comparatively recent introduction of this operation in England, the detailed description by Mr. Tudor Edwards and Mr. Price Thomas of forty-eight cases of lobectomy for bronchiectasis must be deemed of particular interest. The whole volume at half a crown represents wonderful value, and deserves to be on the bookshelf of every practitioner specially interested in diseases of the chest.

STATISTICS OF THE HOME MARKET

The Home Market,[3] by Major G. HARRISON and F. C. MITCHELL, is entitled on its cover a "Handbook of Statistics," and described in Mr. Frank Pick's excellent preface as a by-product of advertisement. The connexion is that persons with articles for sale naturally wish to know where customers are to be found and whether the customers read newspapers. This information can be presented in statistical form, and the authors have collected a great deal of relevant information from official and unofficial sources. The age distribution of the people in different parts of the country, their occupational distribution, their distribution in families, how they spend their incomes, and what their incomes are, these and a great many other facts are set out in tabular and diagrammatic form.

The tables contain an immense amount of information, and the temptation to quote it is great. Thus we learn that in London and the South-East every 100 families take 106.5 copies of newspapers belonging to the group *Daily Express, Daily Herald, Daily Mail, News Chronicle, Daily Mirror, Daily Sketch*, and only 13.5 copies of the *Daily Telegraph, Morning Post, Times*, and all other morning papers published in the provinces. Even Lancashire and Cheshire consume 57.5 papers of the former against 27.5 of the latter class per 100 families. Only Scotland (38.5 and 47.0) has a considerable majority in favour of—dare we say—high-browed and local organs of opinion. Every part of the country reads, or buys, more than one Sunday newspaper per family. The lowest consumption is not in Scotland but the East Midlands (103.5 per 100) and the highest in Northumberland and Durham (157.0). We could easily go on, but it cannot be said that the primary interest of the book is medical, so that its detailed analysis hardly comes within the scope of the medical reviewer.

CLINICAL UROLOGY

Professor MARION'S *Treatise of Urology*[4] has for several years been recognized as the foremost work on the subject that has appeared in France. The third edition is a great improvement upon the former. Much new matter has been added, especially in the clinical section, and a large number of fresh illustrations have been inserted. Both these additions have rendered the work much more serviceable. The clinical descriptions, which were somewhat brief in the former editions, are now ample. The teaching is sound, sane, and practical. Professor Marion has the happy knack of making his meaning perfectly clear, and of avoiding all ambiguity. At the same time he accomplishes this succinctly, and without unnecessary verbiage. The result is that a reader glancing through the book may think that certain subjects are inadequately dealt with, but careful perusal shows that nothing of importance has been omitted. The new illustrations, many of which are in colour, are a very welcome addition, and enhance the value of the work. The substitution of half-tone blocks for line drawings is a great improvement, and we could wish that Professor Marion had carried this substitution still further. Some of the line drawings that appeared in the first edition seem strangely out of place in the third.

This is essentially a French book written by a Frenchman for the French. Practically no notice has been taken of work done in other countries. It may seem strange that Beer's name has not been mentioned in connexion with fulguration of bladder growths, nor Coffey's in the description of implantation of the ureters into the bowel, though a modification of his method is described. It is true that von Lichtenberg's name appears in the description of intravenous pyelography, but this description is very short, and the method is not mentioned in the diagnosis of renal tuberculosis or stone. Each chapter ends with a brief bibliography. Apart from a few references to the reports of the International Society of Urology, the only note of foreign literature is the mention of a French translation of one of Freyer's books.

The book opens with a clear description of the surgical anatomy of the urinary organs, which is followed by a chapter on methods of examination. The next chapter is devoted to the discussion of urological symptoms—pain, haematuria, pyuria, and so on. This, in turn, is followed by a description of urethroscopy and cystoscopy. It is perhaps a little confusing that the author sometimes uses an instrument giving an inverted image and at others one giving a corrected image. The illustrations are not all drawn through the same type of optic, so that some of them give a reversed picture. The section on

[2] *Brompton Hospital Reports.* Vol. iv, 1935. (2s. 6d. ; post free 2s. 9d.)

[3] *A Handbook of Statistics. The Home Market.* By Major G. Harrison and F. C. Mitchell. London: G. Allen and Unwin Ltd. 1936. (Pp. 149. 10s. 6d. net.)

[4] *Traité d'Urologie.* Two volumes. By G. Marion. Third edition. Paris: Masson et Cie. (Pp. 1,232 ; 574 figures, 34 coloured plates. 220 fr.)

pathology, which incidentally includes symptoms, diagnosis, and treatment, is the best part of the whole work. It occupies about 650 pages, and is crammed full of clear, sound teaching. This section alone makes the book a valuable addition to one's library. The next portion contains a formulary of drugs, etc., commonly used in urology. This portion was unnecessarily long in the first edition, and we are glad to see that it is now reduced to more reasonable limits. The last section is devoted to operative technique. In it only the operations that the author himself performs are described. This gives rise to certain omissions—for instance, perineal prostatectomy is not even mentioned. Professor Marion employs Freyer's suprapubic operation, and does not allude to the important modifications introduced by Thomson-Walker and Harris.

On the whole the work is strongly to be recommended, provided one realizes that it only gives an account of urology as practised in France to-day; but subject to this reservation it is one of the best expositions of clinical urology on the market.

McDOUGALL ON FREUD AND OTHERS

In the present state of psychological knowledge and research it is perhaps as well that there should be different, and even rival, schools of thought on the ultimate constitution and modes of action of the human mind, and on the classification and motivation of human behaviour. Certain agreed fundamental broad ideas on these subjects have, in fact, emerged largely as a result of the genius and pioneer work of Professor Sigmund Freud, and, we would add, the original and clear thinking of Professor William McDougall. It is the conflicting elaboration and speculative explanation of these basic conceptions that has led to the formation of different psychological schools, which, with regard to many of their added notions and theories, are not only incompatible, but sometimes violently hostile. Nevertheless, by way of destructive criticism and further research on scientific lines, it is almost certain that advance will be made to an ordered and generally accepted psychological system.

One of the most vigorous, outspoken, and effective pieces of criticism of many important points in the writings and teachings of Freud and some of his followers that have been published will be found in Professor McDOUGALL'S book entitled *Psycho-analysis and Social Psychology*.[5] It consists of three lectures delivered at the University of London last year, together with the reprint, as appendices, of four articles previously published in scientific journals, illustrating and enforcing points made in the lectures, and a fifth dealing with some deplorable social effects of the Freudian teachings. The author does not fail to recognize, in words which he used ten years ago and now repeats, that Freud has "quite unquestionably done more for the advancement of our understanding of human nature than any other man since Aristotle," but he distinguishes between "the truths which Freud has revealed" and "the errors which he has expounded with such fateful success"; and he recognizes also the "popular misinterpretations of his strangely intimate blend of truth and error."

Professor McDougall maintains that the best test of the truth or validity of psychological theories lies in their application in the social field. The consulting room is not the best place for such "pragmatic verification," partly because "in psychological medicine the relations between causes and effects are very complex, very difficult to trace," and because there is "clear evidence that what the Freudian analysts extract from their patients they first implant in them. Since their theories determine what they implant, is it not very natural that what they extract fits well with their theories?" In social psychology it is easier to test how far certain points of Freudian theory tally with observations uninfluenced by the observer. The tests which the author applies in this field are cogent; and his analysis of obscurities, inconsistencies, and errors is pitiless. He gives credit to Freud for his willingness to make changes in his theories with increased experience, and even to abandon conceptions which were earlier regarded as essential; but "it is true, of course, that if, in starting out to build a systematic account of human nature you include a good few thumping big errors, you will have plenty of scope to advance by discovering and rejecting your errors. Freud gave himself this initial advantage in full measure." It is clearly shown that even a genius may be but a poor logician.

One of Freud's fundamental fallacies, in Professor McDougall's view, is that he explains the phenomenon of repression by the mechanistic theory that there is one instinct which is liable to repression and one other which must always be the repressor, whereas McDougall, as is well known, postulates a number of instincts which may have all sorts of reciprocal actions among themselves, at times harmonious, at times conflicting. He believes that in his more recent pronouncements Freud is tending to approximate towards a somewhat similar idea. The author deals faithfully with other fallacies which he detects in the writings of Freud's disciples. He devotes considerable attention to Flügel, deals succinctly with Professors Adler and Jung, and has three scathing pages on Dr. Forsyth's onslaught on religion at the Royal Society of Medicine. It will be gathered that Professor McDougall has discarded velvet gloves, but his style has its delights and attractions. He has written an effective and important book, which should be read by many medical men and women as well as lay people. It is a pity that he has to say, in a parenthesis: "In matters psychological the medical men are part of the lay public." There is at any rate good reason to believe that this is becoming less and less true.

Notes on Books

Dr. R. POINSO'S monograph on Malignant Diphtheria (Paris, Masson et Cie, 18 francs), which is one of the most recent additions to the series known as "Médecine et Chirurgie Pratiques," contains a lucid description of the severe type of diphtheria which has been prevalent in most European countries for some years. The work is divided into ten chapters, dealing respectively with the historical aspects, aetiology, morbid anatomy, symptomatology (three chapters), diagnosis, prognosis, pathology, and treatment. A copious but almost entirely French list of references is appended.

The authors of *Dental Materia Medica, Pharmacology and Therapeutics*[6] are to be congratulated on the result of their labours. The "therapeutic classification" they have adopted enables the dentist to appraise the value of drugs in the light both of laboratory and of clinical experience. When the important constituents have been disclosed, proprietary remedies are included, and form a most useful feature. The chapter on bleaching agents may be specially noted as giving much information in small space. We may ask what proof there is of acidity in the mouth due to dyspepsia, debility, or pregnancy; and perhaps we may direct the authors' attention to Professor Flemming's work on the action of antiseptics on the tissues. We think this book is sure of its welcome.

[5] *Psycho-analysis and Social Psychology*. By William McDougall, M.B., F.R.S. London: Methuen and Co. Ltd. 1936. (Pp. 228. 7s. 6d. net.)

[6] *Dental Materia Medica, Pharmacology and Therapeutics*. By Walter J. Dilling, M.B., Ch.B., and Samuel Hallam, L.D.S. R.C.S.Eng. London: Cassell and Co., Ltd. 1936. (Pp. 328. 10s. 6d. net.)

C. B. Lockwood (1856–1914) came of North Country stock, was educated at St. Bartholomew's Hospital, graduated, as was usual in his generation, through the anatomical department, rose to be full surgeon, and died from the results of a poisoned wound received at an operation. His outstanding claim to remembrance is that he introduced the principles of Listerian surgery into the wards and operating theatres of his hospital. This he did both by example and by precept. They had already been used in a half-hearted way by those who had not sufficient scientific training to understand them. Lockwood, with no better training than his colleagues, set himself to test their value experimentally and in practice. How he did it and with what results is well told by Dr. ERIC JEWESBURY in *The Life and Works of Charles Barrett Lockwood*,[1] which was awarded the Wix prize at St. Bartholomew's Hospital in 1934. The essay is well written; the facts are gathered with care from various sources and are correct. Dr. Jewesbury shows Lockwood as an individual, as well as a surgeon. "No one," he quotes, "was ever so rude as Lockwood. No one ever made a man feel so small, but he was a Man and we just loved him." The fact was that his rudeness was a covering to hide his extreme shyness, while he was loved because he was absolutely honest and was a most loyal friend. Dr. Jewesbury adds in an appendix a brief survey of Lockwood's publications and a complete hand list of his writings. The Wix prize has been won by many students at St. Bartholomew's Hospital who afterwards became distinguished, but this essay is among the most brilliant, and is well worthy of appearing in print.

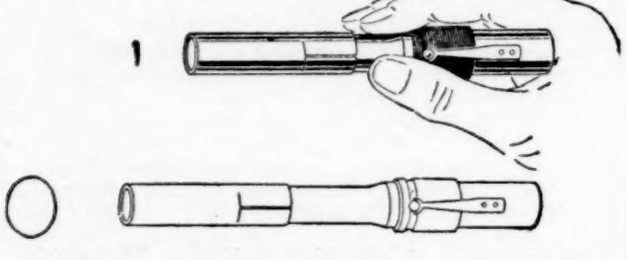
[1] *The Life and Works of Charles Barrett Lockwood (1856–1914)*. By Eric C. O. Jewesbury, M.A., B.M., B.Ch. London: H. K. Lewis and Co., Ltd. 1936. (Pp. 104; 12 illustrations. Cloth 3s. 6d. net; paper cover 2s. 6d. net.)

The sensible little book *The Single Woman and her Emotional Problems* (Baillière, Tindall and Cox, 5s.) is a valuable addition to the literature of practical psychotherapy for the layman and laywoman. As the author, Dr. LAURA HUTTON, points out in her preface, many books have been written in recent years about the problems involved in marriage, but the emotional and sexual problems of the single woman are no less real and no less in need of solution. Dr. Hutton has attempted to give clues to the psychological factors which may play a part in the difficulties encountered by the unmarried woman, and to their adjustment, without going deeply into the unconscious elements involved in analysis and resynthesis. While her book can without fear be placed in the hands of any intelligent and not too prudish woman who is herself the subject of its chapters, its object is primarily to enlist the understanding sympathy of those to whom she is likely to take her troubles—clergymen, general practitioners, and personal friends. To such people the book can be warmly commended. It is well written, clearly expressed, and untainted by that sentimentality which sometimes mars "the little book." The problems of the single woman which are considered include loneliness, unequal and impermanent friendships, anxiety, jealousy, masturbation, inversion, perversion, alcoholism, and drug addiction.

Preparations and Appliances

A POCKET SLIT-LAMP

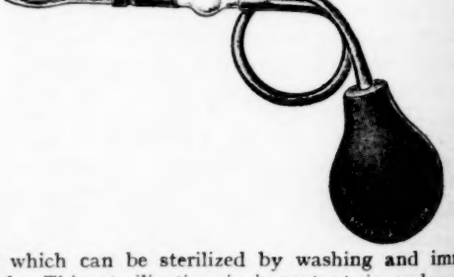
Mr. DAVID RANKINE (Liverpool) writes: The disadvantage of pocket slit-lamps is the scanty illumination which they provide. This is due to the method by which the slit-beam is obtained—that is, by the use of an opaque diaphragm in which a vertical slit has been made. Obviously there is thus complete wastage of, at a guess, 90 per cent. of the light. In order to make use of the greatest possible amount of the light I first had a lamp made in which the function of the diaphragm was taken over by



a strongly convex cylindrical lens. This of course gave a lineal light of some brilliance, but there was a good deal of aberration, to remove which would present considerable difficulties. The idea of using a bulb with a lineal filament then occurred to me, and an ordinary fountain-pen type of torch was fitted with such a bulb, a condenser cap, and a projection lens. With the filament and the two lenses properly spaced (and the accuracy of this adjustment is of the greatest importance), a brilliant slit-light is produced, with little aberration, about an inch in front of the distal lens. If the slit is not good, adjustment is all that is necessary, and, with the cap pushed home, the instrument is used as a slit-lamp giving a good corneal section and also a very good lens section with a dilated pupil. As the cap is withdrawn a homogeneous round patch of light is obtained, so that the lamp may also be used as an ordinary inspection light. The lamp has been made by Rayner of New Bond Street.

AN EAR ASPIRATOR

Mr. W. S. THACKER NEVILLE (Harrogate) writes: In treating otitis media in an adult by the dry method I get the patient, in the case of the right ear, to put his left hand over his head and pull his ear upwards and backwards and then to insert "Peerless Wood Applicators," thinly covered with cotton-wool, into the external auditory meatus until it is quite clean. I then instruct the patient to suck the pus out of the ear. In the case of children the parent can apply the suction, and, of course, in the case of a child the auricle is pulled backwards, and in the case of a baby, downwards and backwards. The cleaning process is then repeated, and finally boric iodine powder is insufflated. A doctor can do the sucking with a Siegle speculum, but the patient requires a cheap easily used instrument with an end and a



reservoir which can be sterilized by washing and immersion in alcohol. This sterilization is important in order to prevent a furuncle forming. The aspirator pictured here with a glass end and a glass reservoir fulfils all these conditions, and furthermore, when the ear has healed, it can be used as a masseur to move the tympanic membrane. It can be procured from Mayer and Phelps.

AMMONIUM MANDELATE ELIXIR

"Ammoket" (Messrs. Boots) is an elixir containing ammonium mandelate. Each dose of 4 fluid drachms contains 82 grains of the drug. The ammonia is transformed to urea in the body, leaving the mandelic acid to be excreted in the urine. It thus increases the acidity of the urine, and the makers state that in most cases a satisfactory disinfectant action can be obtained without the use of ammonium chloride. The special advantages claimed for the preparation are that it has a pleasant flavour and does not cause alimentary upset, and hence it is a particularly convenient method for the administration of mandelic acid.

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NUTRITION AND SOCIAL POLICY

It is unfortunate that some words have a dual meaning. "Nutrition" is one of them. At one time it is used to signify "food," that which nourishes, at another the act or process whereby the nourishment of the body is effected. Both meanings are no doubt correct. Dictionaries give them both. But in medical literature and in publications dealing with problems of nutrition the word should be used only in the latter sense. When we read in the preface to the report of the International Labour Office on *Workers' Nutrition and Social Policy*[1] that "nutrition, adequate both in quantity and in quality, is essential to the health and well-being of the workers and their families" we assume that by "nutrition" food is meant, but would prefer that the word "food" had been used instead of it. For it is faulty food, whether the faults be of quantity or quality or both, that disturbs the function of nutrition, and this, in its turn, that is so potent a factor in disturbing health. "Foodstuff" is another word that suffers from lack of definiteness in its use. There should be no doubt about its meaning. It is an article of food in bulk, like cabbage, beans, or a glass of milk. Yet we find the word applied indiscriminately to articles of food and to the nutritive constituents of food—proteins, fats, carbohydrates, mineral elements, and vitamins. No doubt these are things used as food, but not, or rarely, in their separated state as such. Foodstuffs are compound substances of animal or vegetable origin containing a number of these essential nutrients, and to these compound substances, as nature provides them, the term "foodstuffs" should be restricted. When, therefore, we find in the report above referred to that "the three large categories of organic foodstuffs are: (1) proteins, fats, carbohydrates; (2) mineral substances; and, (3) vitamins," we have two causes of complaint in connexion with this phrase: the use of the word "foodstuffs" and the faulty proof-reading that allowed the phrase to appear in its present form: clearly a slip of the author's pen. For mineral substances are not "organic," nor should they, or the other nutritive constituents of food, be spoken of as "foodstuffs," certainly not in a publication so admirable as this.

[1] P. S. King and Son, Ltd. (For the International Labour Office, League of Nations). London, 1936. (5s. 6d.)

The report is admirable in that it summarizes the scientific facts showing the close relation between the kind of food we eat and health in general, and productive efficiency in particular; in bringing together the data available regarding the diets in use by workers and the materials which may be further studied; and in indicating the gaps in knowledge that need filling: an indication of great importance in directing further thought and research. At its outset it lays emphasis on the need for the proper definition and use of terms, and for the need to distinguish clearly between three separate concepts—malnutrition, malnourishment, and under-nourishment. "The word malnutrition might be reserved," it says, "to indicate the state of ill-health of a population or any group of a population in so far as that state is caused either by malnourishment or under-nourishment. It is thus to a large extent a medical term or a term for public health purposes. . . . The existence of malnutrition is revealed in various morbid states, and it is measurable in terms of indices which are medical, anthropological, or biostatistical (such as height, weight, special diseases, etc.)." This definition is well enough, but it would be better if malnutrition resulting from faults in food or from insufficient food were referred to as "dietetic malnutrition"; for factors other than food may be concerned in causing malnutrition.

"Malnourishment refers to an actual condition of diets in which not the quantity but the quality of foodstuffs is involved." According to present knowledge a diet, to be adequate, must supply a sufficiency of some thirty or more nutrients. "A population or a group of a population may be malnourished, even if it is able to use and is in the habit of using a sufficient quantity of energy-yielding foodstuffs, but if it is either unable or unaccustomed to maintain a balanced diet including all the proper nutritive elements in correct proportions. . . . The term under-nourishment, on the other hand, expresses a dietary condition, largely among working people, in which there is an actual insufficiency both in quantity and in quality of the nutritive elements needed for health and well-being." The authors of the report have very rightly emphasized that a good deal of the existing confusion in regard to nutrition and health is due to a lack of discrimination between these three concepts. They affirm that malnutrition is widespread and not always the result of poverty or of ignorance; it may be the result of carelessness or indifference. A large part of it is due not to shortage of food but to malnourishment. But its most important cause, as stressed in this report, is under-nourishment due primarily and essentially to poverty. The question of income is at the root of the nutrition problem. "May not the application of the new scientific knowledge on nutrition to the promotion of health supply a principle of social policy which would help to reorient in the proper direction our economic

activities?" The report proceeds to state the questions implied in this challenge, and a perusal of it leaves little doubt in the mind that this knowledge does in fact supply a principle on which our economic activities should be based.

In November, 1935, a Technical Commission of the Health Committee of the League of Nations, at a meeting in London, laid down that an adequate diet should satisfy the following requirements: (1) a minimum of 2,400 net calories for the average person living in a temperate climate and not engaged in manual labour ; (2) additional increments of calories for various kinds of labour ranging from 50 calories per hour for light work to 100 or more for heavy work ; (3) 70 grams of proteins a day for the average person weighing 70 kilograms, part of which must be of animal origin ; (4) a sufficient quantity of minerals and vitamins, which are furnished most easily and in the best form by "the protective foods"—green leaf and root vegetables, milk, eggs, and lean meat. This statement of the physiological bases of nutrition, though not the last word on the subject, is a great advance. A chief merit of it lies in the emphasis it lays on vegetables, milk, and eggs. It is true that it leaves the problem of the relation between diet and specific kinds of occupations still undetermined, but it may be doubted whether the solution of this problem is a matter of great urgency. What is of importance is that there exists a minimum below which the nutritive constituents of food must not fall if health is to be maintained. If the diet conforms to the above requirements there is no risk that this minimum will be reached or that it will fail to satisfy the worker's needs whatever the occupation may be. That is the first important fact. A second is that the diets of large numbers of our people do not conform to these requirements and that their health suffers in consequence. And a third is that technically agriculture is in a position to meet these requirements. The chapter of this report dealing with agricultural production, prepared by the International Institute of Agriculture in Rome, makes it clear that agriculture has not only kept in step with the demand for its products, but in some respects has outstripped such demand. But the demand for the protective foodstuffs is not what it should be, and these are still produced in quantities too small to meet even minimum needs. Their sufficient production in this country is an urgent need.

"Revolutionary advances in the production, transport, storage, and distribution of foodstuffs have made potentially possible a much higher level of nutrition for all of us." The problem has thus become an economic one. "If we have to-day widespread malnutrition due to under-nourishment, we must trace that fact in large measure to our incapacity to use technical and human resources to the best advantage for the purpose of maintaining all the people in a condition of good health and well-being." But, as the authors point out, the economic and social issues involved are certainly not simple. "The problem of nutrition touches upon every phase of economic and social organization, upon questions of price, standards of living, income, monetary and credit policy, taxation, etc." While making no attempt to answer these questions, the report points out that since the automatic working of economic forces does not produce the desired results with regard to the distribution of income and to the fulfilment of the wants of different groups of the population, special social policies are called for. It refers to attempts in modern legislation to consider these wants: the attention given to requirements of workers' nutrition in formulating policies of social insurance, minimum wages, family allowances, maternity assistance, etc. The report considers the relative importance of education and of increasing wage incomes, and comes to the conclusion that important as education is the provision of sufficient income is far more so. For "when purchasing power is provided for the workers through employment and adequate wages, the workers themselves tend to select the better and more nutritive foodstuffs and are more amenable to the influence of education."

Are we at the present time employing public funds to the best advantage for the maintenance of the national health? Is the national health insurance scheme yielding a return in health and well-being of the people commensurate with the vast expenditure involved? If it is not, let it be reorganized and augmented by a Policy of National Health based on the proper feeding of our people.

TISSUE VASO-DILATORS

A series of monographs on pharmacology and experimental therapeutics is now being published in Germany at Leipzig, and one of the latest of them has for its subject vaso-dilators in tissues.[1] The author is Professor J. H. Gaddum of University College, London, and Sir Henry Dale has contributed a preface, in which he points out that the most obvious mode of control of the peripheral circulation is the general vaso-constriction that can be produced by the central nervous system: an effect that can be reinforced by the two hormones adrenaline and pitressin, both of which are released from centralized stores. The needs of the tissues for increased blood supply appear, however, to be provided by vaso-dilators produced locally and having a local action. By reason of the conditions under which they are formed these substances are difficult to identify, and it is only in recent years that their physiological importance has been made plain. The chief groups of vaso-dilators of known composition that are produced in the tissues are histamine, choline derivatives, and adenosine derivatives, but there are, in addition, other substances with a similar action whose chemical nature

[1] *Gefässerweiternde Stoffe der Gewebe.* By J. H. Gaddum and H. H. Dale. Leipzig: G. Thieme. (M. 18 ; geb., M. 20.)

is still unknown. Sir Henry Dale believes that at least two such unidentified substances must exist.

The pharmacological analysis of the vaso-dilators found in the tissues is a subject of peculiar difficulty. Several of these substances are usually present in any one extract, and since they have a similar action identification of the active principles is difficult. This difficulty is increased by the fact that the substances are present in minute amounts which are easily destroyed or lost during chemical treatment. A more fundamental and serious difficulty is the uncertainty as to the extent to which substances finally obtained in the extracts are artefacts. It is, for example, certain that both acetylcholine and histamine are stored in the tissues in some inert form. The amount of acetylcholine that can be obtained by grinding up a frog's heart is many times greater than the amount needed to arrest the heart. Similarly in the case of histamine the amount that can be obtained from the lungs would suffice to bring about general collapse if suddenly introduced into the circulation. It is therefore a matter of great difficulty to estimate the part these tissue vaso-dilators play in regulating the circulation in life. A further complication is the fact that there are wide differences in their effects in different species. Histamine, for example, has different qualitative effects in almost every species studied, and the general toxicity varies in an even more striking manner. Thus the mouse is unaffected by one hundred times the dose sufficient to kill a guinea-pig. These variations make it a very hard task to establish the part played by histamine in circulatory control. The theory of the production of shock by release of histamine or histamine-like substances appeared to be completely established ten years ago, but we now know that this is not the chief factor, and many authorities deny that these substances play any part in the production of this condition. The problems of the production of shock from wounds and burns and the cause of anaphylaxis are all considered briefly by Professor Gaddum.

The question of the vaso-dilators manufactured by the tissues is linked closely with one of the most important recent developments in physiology—namely, the release of active substances by nerve stimulation—and this fascinating problem is discussed fully. The conception of drug release by nerve stimulation was introduced by pharmacologists, and has been worked out largely in pharmacological laboratories. Very delicate and accurate technique is needed for this, because the amounts of acetylcholine or sympathin that have to be identified are usually of the order of 1 part in 1,000 million in a small volume of fluid. Professor Gaddum gives a detailed and authoritative account of the methods that have been devised to this end, and since the methods are for the most part new and intricate this section of the monograph will be found particularly valuable by research workers. His thorough and critical survey of a very important and rapidly developing field of pharmacology should prove of great service to students in many fields of medical science.

"TULIP FINGERS"

Although this description may conceal the painful and disabling nature of a dermatitis from contact with tulip bulbs, it has so poetic a sound that it may be the cause of attracting the attention the condition deserves. A memorable example of the poetic glossing of medical realities occurred in a playlet some years ago at the Old Vic, when on the lips of John Gielgud epithelioma became "flower in the mouth"! Dermatitis from handling flower bulbs was first described some ten years ago by Dr. Sibyl Overton,[1] medical inspector of factories, who found a condition of perionychial and hyponychial inflammation among sorters and packers of tulip bulbs. Trauma and contact (accentuated by overlong nails) with a food substance in the bulb were thought to be important aetiological factors. The juice from the tulip bulb was found to produce experimentally a subungual irritation without previous damage by trauma. Some years later the same observer[2] found that the lesions caused by handling tulip bulbs were to some extent reproduced by contact (cropping and packing) with the juices of the stalks of tulip flowers. Subsequently Mr. A. P. Bertwistle[3] called attention to the seriousness of the condition (a cure was said to depend on avoidance of contact with bulbs), suggesting that the causal agency was either mechanical, bacterial, or due to acid secretion from the bulb. This observer, in a very interesting recent communication,[4] gives further information following research into the aetiology of "tulip fingers." This work seems to show that the original view as to the part played by trauma was correct. Beneath the testa of the tulip bulb are barbs rigid enough to penetrate the skin in vulnerable positions such as the region of the nail.

The active agent primarily responsible, however, for the irritation around the finger nails is thought to arise from the fermentation of the sugars (chiefly maltose) of the bulb substance, and the action of antiseptics for which success is claimed is thought to depend on inhibition of this fermentation. Other occupations necessitate contact of the fingers with sugar and sugary solutions, and it is interesting to recall that sugar workers, especially those engaged in the making of preserved fruits, are known to suffer from inflammation of the nail region. "Bolster fingers," so called from the swelling of the tissues around the nail, due to monilia infection, have been described by MacLeod[5] in workers handling sugar. Sugar "boils" on exposed parts of the skin (usually, however, not including the hands) are well recognized in the sugar-refining industry. Dr. A. H. W. Caulfield,[6] in a recent paper read in Toronto, has made a thoughtful contribution to the aetiology of "tulip fingers" from a study of the results of patch and scratch tests and the Prausnitz-Kustner reaction in a case which, judging from the clinical description, seems to be of greater severity than the average English instances. The important result of these tests was the severe erythema which lasted several weeks from the patch test with ether-extracted tulip bulb material with the addition of sterile mazola oil, whereas both the oil alone and a slice of tulip produced

[1] *Lancet*, November 13th, 1926, p. 1003.
[2] Ibid., August 4th, 1934, p. 233.
[3] *British Medical Journal*, August 10th, 1935.
[4] Ibid., May 30th, 1936.
[5] Ibid., June 21st, 1930.
[6] *Canadian Med. Assoc. Journ.*, 1936, xxxiv, 506.

no reaction. A watery solution of the bulb substance gave, however, a transient erythema. The Prausnitz-Kustner reaction showed that "there was no evidence of sensitizing antibodies in the serum of an individual who was undoubtedly skin sensitive to the ether-soluble fraction of tulip bulb." Intramuscular injection of the mazola oil extract over a period gave some apparent success, as the subject was able to resume contact with bulbs without ill effects. But Dr. Caulfield stresses that "the potency of different extracts apparently may vary greatly." A fellow worker with relatively mild dermatitis under the nails proved sensitive only to the ether-soluble fraction and to a watery solution of the bulb substance.

Intensely interesting though the results of research into the aetiology of "tulip fingers" are, the horticulturist demands means of prevention and, in the event of failure, a permanent cure not necessitating the drastic change of occupation. On prevention there are evidently two schools of thought: one that would prevent actual contact of the skin with the irritating substance—either by gloves, to which there are obvious objections, or by interposing between skin and irritant a neutral "barrier" substance; the other that aims at rendering harmless the substances handled. For the latter, antiseptics, especially non-irritating solutions, are advocated, with the object of inhibiting the fermentation of maltose. Often a combination of measures will be found effective, and the *Journal of the Ministry of Agriculture* (November, 1935) has given much practical advice on these lines to horticulturists.

THE NATIONAL PHYSICAL LABORATORY

The annual inspection of the National Physical Laboratory on July 1st as usual proved a very popular event. The work at Teddington is now so diversified that not even the most presumptuous journalist can go with the expectation of understanding all about it, and he is fortunate if he finds a corner where the language spoken is his own. On the programme was the astonishing number of 915 separate equipments or demonstrations ranging over the fields of physics, electricity, engineering, metallurgy, aerodynamics, and radio research. A new development is the photometry laboratory, necessitated by the rapid elaboration of research into the problem of illumination. It has a room 145 feet long for the measurement of different types of projectors, such as motor-car headlights. Work is proceeding on the recovery of the eye from the effect of glare. One of the effects produced on the eye by exposure to a glaring source of light is the contraction of the pupil to a diameter of 3 mm. When the source of glare is removed the pupil begins to dilate to the size normal for the conditions under which the eye is operating, and it is important to know the rate at which this dilatation takes place. The subject has been studied with the aid of a cinematograph film and infra-red radiation, and work is still in progress. Work is being done also on the parallel infliction of noise, and an apparatus has been constructed which measures the loudness due on the one hand to the frequency of a particular sound and on the other to its intensity, and makes allowance for the psychological effect whereby a repeated sound appears to be louder than a single emission of the same volume. The study of sound in buildings is being investigated, particularly the use of "floating" floors—a matter of importance as cities become increasingly populations of flat-dwellers. Wonderful things are also being done in the amplification of sound. Destructive insects burrowing deeply in timber make sounds which no ear can detect, but such sounds can now be magnified a million-fold and the whisper of the tiny pest to its mate in the middle of an oak beam made as audible as a voice on the telephone. Investigations are being made on the absorption of radiation from radium by building materials, such as brick walls and breeze blocks, and the results are being applied in the designing of radium departments in hospitals. The Laboratory, with its series of radium substandards, tested last year close upon 20 grams of radium, exceeding the previous highest total for one year by more than two grams. About half of this amount was tested on behalf of the Radium Beam Therapy Research Board. The inspection of *x*-ray departments and the testing of protective materials has been continued, and another function of the Laboratory is the testing of clinical thermometers to the number of not far short of half a million a year. Another piece of useful work is an investigation undertaken for the Medical Research Council into the structure of tooth enamel and dentine. These researches suggest that an enamel of high quality is characterized by a fibre structure in which the amount of preferentially oriented apatite is large and in which the orientation reaches a high stage of perfection. Yet one more investigation may be noted—namely, into static electrification in operating theatres. Some anaesthetics are explosive, and the possibility of production of electrostatic charges and the risk of their ignition by spark is one which cannot be neglected. The risk is recognized as a serious one in countries with dry climates, and is of sufficient importance in England for the subject to be investigated in the Laboratory. The problem is being discussed with the medical and nursing staffs of a number of hospitals which have been visited. A full account of all this various work is given in the Annual Report of the Laboratory,[1] a book of 250 pages, and a marvel of condensation at that.

STAPHYLOCOCCUS TOXOID

The comparatively recent study of the toxins of *Staphylococcus aureus*, and its natural therapeutic consequences in attempts to secure an antitoxic immunity, have produced a considerable literature within the past few years without any general conviction that these developments represent an important therapeutic advance. In a review of recent papers on staphylococcus antitoxin in these columns last year it was pointed out that in an infection by a micro-organism with considerable invasive as well as toxigenic powers antitoxic immunity alone should not be expected to afford complete protection, and variable clinical results suggest that it is only one side of the picture. Active immunization with toxoid has some enthusiastic advocates in this country, and has been used chiefly in chronic infections of the skin. It is noteworthy that the infections which are said to respond are those more amenable to other forms of treatment, while more resistant conditions, such as sycosis, remain uninflu-

[1] The National Physical Laboratory. Report for the Year 1935. H.M. Stationery Office. (12s. net.)

enced. Those who are interested in this form of treatment will find new material in a series of papers[1] which have recently appeared in France. Here it appears that toxoid has been used not only in chronic infections in otherwise healthy subjects but in acute and severe cases. Two of these papers record recoveries from staphylococcal septicaemia for which credit is given to injections of toxoid, although as usual in such case histories it is difficult to disentangle the effects of several treatments adopted. By some this treatment would be considered irrational, the indication being rather for the employment of antitoxin. That toxoid, even in chronic or trivial infections, may not be without its dangers, is suggested by reports of a case in which its use apparently caused an attack of nephritis, and another in which sudden death followed, the chief post-mortem finding being haemorrhage into the suprarenals. Two papers containing information of perhaps more general interest are by Tzanck, Klotz, and Negreanu, who have been using toxoid on a considerable scale and on more orthodox lines, and studying its effect by estimations of the antitoxin content of the blood. They have observed what is already familiar to English workers, that the response as measured in this way is by no means constant, nor does it always correspond with the degree of clinical progress. That recovery should sometimes take place when the antitoxin level in the blood has risen little, whereas a considerable rise in this level may be unaccompanied by any noteworthy clinical improvement, is surely support for the contention that some other factor than this is necessary for efficient resistance to staphylococcal infections. These authors make one fresh contribution in what is otherwise a study on familiar lines: this is the proposal that dosage should be regulated by the results of an intradermal sensitivity test. It seems unlikely that toxoid will be assignable to its proper place in therapeutics until its effects have been compared with those of autogenous vaccines, and with those of orthodox treatment on non-specific lines, in a large series of cases embracing adequate numbers of each of the chronic infections for which its use has been advocated.

[1] *Bull. et Mém. Soc. Méd. des Hôp. de Paris*, 1936, lii, 344, 352, 355, 452, 455, 459.

BLINKING, WINKING, AND CLOSURE OF THE EYES

The ocular and palpebral signs in exophthalmic goitre well illustrate the complexity of the movements of the eye and lids in the abnormal state. That such movements in the normal state are no less complex is apparent from the sparse and conflicting literature on the subject, and how much there is to explore is evident from the study of Sir Arthur Hall in the May issue of the *British Journal of Ophthalmology*. Drawing a clear distinction between blinking, winking, and closure of the eyes in sleep, and in conditions unassociated with sleep, Sir Arthur gives an account of elaborate investigations that he carried out in a large number of adults and children. He shows that the classical description of Sir Charles Bell in 1823 of the position of the eye in sleep is not fully correct, and he confirms the findings of subsequent observers that there is no one position which can be called the natural position of the eyes in sleep. In infants, before binocular vision is established, the eyes in sleep are generally in a horizontal position and usually symmetrical, but bizarre deviations may occur, while in adults the eyes in sleep take up a horizontal or upwards position in about equal proportions, but downwards movement occurs in some individuals. Though Bell stressed inwards deviation in addition to an upwards deviation it would appear that the lateral element is by no means constant as to direction. Nor must it be assumed that the eyes are at complete rest during sleep, for slow incoordinate movements are not uncommon. What applies to sleep applies also to a large extent to the eye when the lids are closed, as Bell has already noted. The upwards deviation of the eye seen in cases of facial palsy where the affected lid cannot be fully closed has been known as " Bell's phenomenon," and of late a so-called " inverted Bell's phenomenon " has been reported—downward movement of the globe when an attempt is made to close the lids. Sir Arthur Hall shows clearly that the inverted Bell's phenomenon is nothing but the occurrence of Bell's palsy in a patient who normally turns his eyes downwards in sleep or when the lids are being closed. By means of film records he demonstrates that closing of the eye is bi-phasic in character, there being a palpebral phase during which movements occur only in the lid, this being succeeded by a global phase when the eye takes up its proper position of rest. Opening of the eye is also bi-phasic, the two phases being reversed in order of time. Winking is distinguished from blinking not only by its unilateral character but also by the fact that the act of blinking is so rapid that there is only a palpebral phase in it and no global element. This disposes of the contention that blinking may be a reflex act to allow the eyes to take up a state of rest. The observations that Sir Arthur Hall advances found their starting-point in his interest in oculogyric attacks, and it is obvious that a clear appreciation of the normal physiology of ocular movements is essential for the understanding of these distressing pathological variations. Perhaps he could give us a study of ocular movements in exophthalmos. Such a study might be of more than academic interest, though for the sake of the harassed medical student it is to be hoped that, as a result of it, yet another eponymal sign will not be added to the long list already found in the textbooks on eye signs in hyperthyroidism.

ALCOHOL INJECTION OF SYMPATHETIC GANGLIA

That opinion in regard to operations upon the sympathetic system is by no means stabilized as yet may be gathered from the numerous papers which continue to appear advocating this or that type of denervation for this or that condition, but there is reason to think that sympathectomists are becoming fewer in number and less extravagant in their claims. As the result of clinical and experimental work during recent years the limits of the field are much better known, and the varieties of case for which benefit may be expected and the optimum procedures to bring this about are gradually being recognized. From time to time, as an alternative to removal of the sympathetic ganglia or section of their branches, alcohol injections have been

advocated. In a recent article[1] on this procedure R. H. Patterson and W. J. Stainsby of New York consider the various ways in which sympathetic denervation may be effected, and after quoting the experimental work of Lambert Rogers and Hemingway in rabbits, of Horton and Craig on the dog, and the clinical observations of Adson, White, and others, they conclude that periarterial sympathectomy results in only slight sympathetic denervation of peripheral arteries, and that "there is no rational anatomical or physiological basis for this operation as a clinical procedure." They point out, on the other hand, that if in the case of the upper limb the inferior cervical and the first and second thoracic ganglia, and in the case of the lower the second, third, and fourth lumbar ganglia, are put out of action (either by resection or by what they term blocking—that is, by injection with alcohol), there is complete paralysis of the vaso-constrictor fibres passing to the extremities. Blocking of the sympathetic ganglia is first carried out with local analgesics such as novocain or procaine, so that a clinical test of what may be expected from the use of alcohol may first be made. The injection is done with the patient in the prone position, and the method followed may be that of either Labat or Lundy, details of both of which were described in 1931 in a paper by P. G. Flothow.[2] The use of alcohol injection reduces the patient's stay in hospital, but a disadvantage which Patterson and Stainsby have met with as an occasional complication is irritation of the intercostal nerve trunks and intercostal neuritis, which may last from a few minutes to four or five weeks. The duration of the effects of alcohol is uncertain because relatively few cases have been so treated. Patient practice on the cadaver is needed before the surgeon undertakes this procedure, but if with an effective technique a reasonable degree of both certainty and permanency of the effects can be brought about it is possible that this method of treatment will be more often adopted. Its relation to the operation of ganglionectomy or ramisectomy is comparable to that of the alcohol injection of the Gasserian ganglion for trigeminal neuralgia as an alternative to operations on the sensory root of the ganglion. Certainly it has simplicity to recommend it, and Hippocrates wrote in relation to the cure of disease: "If this can be accomplished in various ways, the least troublesome should be selected." Presumably the reference is to both patient and surgeon.

CALCIUM AND DIGITALIS

Twenty years ago it was shown that the toxic action of digitalis glucosides on the isolated frog's heart was modified by changes in the calcium content of the Ringer's fluid. Bower and Mengle[3] have lately reported clinical results which show that these drugs may prqduce disastrous effects when given in combination. They record two cases of sudden death from cardiac collapse following the intravenous injection of calcium gluconate after administration of full doses of digalen. The experimental records indicate that the calcium caused ventricular fibrillation, since the tracings show a sudden stoppage of the heart and fall of blood pressure, with subsequent cessation of respiration.

[1] *Ann. of Surg.*, April, 1936, p. 514.
[2] *Amer. Journ. Surg.*, 1931, xiv, 3, 591.
[3] *Journ. Amer. Med. Assoc.*, 1936, cvi, 1151.

JOSEPH CHAMBERLAIN

The centenary of the birth of Joseph Chamberlain is being celebrated this week. A brief account of the part played by him in the initiation and prosecution of the campaign against tropical disease appeared in the *British Medical Journal* of February 7th, 1914, and at the Annual Meeting of the British Medical Association at Birmingham in 1911 he was unanimously elected an Honorary Member "in recognition of his eminent services in promoting a systematic study of tropical diseases." Joseph Chamberlain was interested throughout his public life in all questions affecting the social welfare and the health of the people. He served his apprenticeship to public health work in Birmingham, and while mayor of that city followed a policy which showed that he had already grasped the broad principles of sanitation which he developed afterwards on a wider stage. His interest in the housing question never failed. In the management of municipal affairs he displayed the same foresight, the wide and penetrating glance, that distinguished him at the Colonial Office. When given a choice of Cabinet office in 1895 he deliberately took one that then seemed of less honour and importance than others, because in the post of Colonial Secretary he saw a chance of realizing his dream of consolidating the Empire. He perceived that knowledge of the health conditions of the Tropics was the first step towards delivering them from the diseases that paralysed the working capacity of the natives and interfered disastrously with efficient administration and trade. Sir Patrick Manson for some years had been urging the need for instruction in tropical diseases. In Mr. Chamberlain he found a statesman who could appreciate his scheme and who saw the enormous benefits it would confer. The energy and driving force of the Secretary of State for the Colonies quickly brought to fulfilment the scheme suggested to him. Schools of tropical medicine were founded in London and Liverpool; both from very small beginnings grew into flourishing institutions, which have sent out large numbers of men to battle with the diseases peculiar to the Tropics, and have done much by research in the field and in the laboratory to solve the problems of tropical hygiene. With the origins of this great and growing work the name of Joseph Chamberlain will ever be linked.

We regret to announce the death of Sir William Hamer, M.D., F.R.C.P., the distinguished epidemiologist, who was for fourteen years medical officer of health for the Administrative County of London.

Viscount Hailsham (the Lord Chancellor) has accepted the chairmanship of the British Empire Cancer Campaign. He is the second Lord Chancellor who has held that post. A previous chairman was the Earl Cave, who was succeeded by the late Marquess of Reading, a former Lord Chief Justice of England.

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the metabolic diseases met with in general practice.

TREATMENT OF DIABETIC COMA

BY

R. D. LAWRENCE, M.D., F.R.C.P.

In this insulin era diabetic coma is becoming a rare condition and theoretically should never occur. Impending coma should lead to diagnosis and treatment with insulin in the early precomatose condition, when a dangerous outcome can be easily averted by adequate treatment. When full diabetic coma has developed, either through the negligence or ignorance of the patient or relatives or through the lack of immediate action by the doctor, a fatal condition may occasionally develop. But diabetic coma as a cause of death should have disappeared by now.

Diagnosis

The differentiation between diabetic and other comas is easy if the rule of a routine test of urine—obtained by catheter if necessary—is not omitted in all severely ill and unconscious patients. Albuminuria is always present in diabetic coma, and its finding should never be allowed to suggest a renal condition until the urine has been examined for sugar and acetone. The diagnosis will be suggested by history of progressive thirst, wasting, and weakness ; by ensuing vomiting or abdominal colic ; by air hunger with a smell of acetone in the breath ; and by slow drowsiness leading to coma. Confusion may most easily arise in known insulin cases between true diabetic coma (ketone intoxication) and unconsciousness from an overdose of insulin (hypoglycaemic coma). The former may occur in an insulin case either from total omission of insulin or from irregularity in treatment or incidental infections. It may be very difficult for a doctor suddenly called to such a case to decide between the unconsciousness of true diabetic coma and insulin coma, and I have seen some patients lose their lives through the wrong treatment being given.

The main clinical differences are contrasted in Table I.

TABLE I

	Diabetic Coma	Insulin Coma
Onset	Gradual	Very sudden
Tongue	Dry	Moist
Respiration	Deep; air hunger Acetone in breath	Quiet None
Skin	Dry; blue colour	Sweating common
Dehydration	Marked	Absent
Pulse	Rapid; feeble	Normal; bounding
Blood pressure ...	Low	Normal
Eye tension	Usually low	"
Nervous system ...	No pathognomonic signs	Convulsions frequent
Chemical tests:		
Urine sugar	+++	Nil or trace
Ketones	+++	"
Albumin	Very common	Very rare
Blood sugar	Very high	Very low

It should be remembered that in insulin coma some sugar may be found in the first catheter specimen, because this was secreted into the bladder perhaps some hours before, when the blood sugar was high. But the next sample obtained from the indwelling catheter will be sugar-free. If any doubt remains about diagnosis an unconscious diabetic should be immediately treated with sugar (1 oz.) for hypoglycaemia. This should abolish the insulin coma within fifteen minutes, will do little if any harm to the diabetic coma, and gives time to think and decide on further treatment.

Coma and Precomatose Conditions

Diabetic coma is due to the poisons of disordered fat metabolism (the acetone or ketone bodies) which accumulate in severe diabetes whenever insufficient sugar (glucose) is being metabolized. The treatment therefore consists in burning large amounts of sugar by large and repeated injections of insulin, the sugar being given to provide fuel for the insulin and to prevent hypoglycaemia. Besides this it is necessary to treat the dehydration and circulatory collapse which is usually present, because if the latter is severe the patient may die before and in spite of the removal of the ketosis by insulin. The treatment of collapsed and profoundly comatose patients usually demands prolonged and difficult treatment (intravenous saline, etc.) which can hardly be carried out in the patient's home, and I would advise doctors to send such cases at once to an efficient hospital after a large intravenous injection of insulin (40-50 units). Precomatose cases (indeed the condition should never be allowed to go beyond this stage) that can swallow and retain sugar and fluids can be easily treated at home by the following simple method (Table II).

TABLE II

Diet and Insulin Control by Urine Tests*

Diet

Carbohydrate, *40 grams*:
By day, *4-hourly*
By night, *4-hourly*

The following contain 10 grams of carbohydrate:

Sugar ...	2 large lumps or 2 teaspoonfuls
Glucose ...	½ oz. or 2 full teaspoonfuls
Benger's ...	½ level teaspoonfuls
Horlick's ...	2 heaped teaspoonfuls
Ovaltine ...	2 very full teaspoonfuls
Orange juice	4 oz.
Milk	7 oz.

Give water between feeds

Insulin

Test urine for sugar before each dose (catheter if necessary)

Give	*At*	*Units*
4-hourly	*6 p.m.*	*40*
	10 p.m.	*30*
	2 a.m. etc.	*20*

if Benedict's test is red or yellow = +++ sugar
if green with copper deposit = trace
if blue ... ... = no sugar

Date	Time	Urine Sugar	Ketones		Insulin	Carbohydrates
			Fe Cl	Rothera		
21/3/32	6 p.m.	+++	+++	+++	40	40 grams (40 gm. glucose + lemon juice)
	10 p.m.	+++	+++	+++	40	" "
22/3/32	2 a.m.	+++	++	+++	40	40 gm. (8 teaspoonfuls Benger's)
	6 a.m.	+++	0	+++	40	" "
	10 a.m.	Trace	0	++	30	" "
	2 p.m.	0	0	+	20	" "
	6 p.m.	Trace		0	30	" "
	10 p.m.	Trace		0	30	" "
23/3/32	2 a.m.	0		0	0	0
	6 a.m.	+		0	30	40 grams (8 teaspoonfuls Benger's)

Patient is then put on 120 grams carbohydrate + insulin 40 units twice daily

* The figures in italics may vary with the requirements of each case.

Carbohydrate and Insulin Treatment

If vomiting has been present and is likely to recur, washing out the stomach may stop it entirely and should be carried out. Regular amounts of carbohydrate are given by mouth every four hours (chosen from the foods shown in Table II), and the insulin is started with 40 units intravenously and continued four-hourly. The urine is tested every four hours, and the dose of insulin varies with the degree of glycosuria. Forty units are prescribed for heavy sugar, 30 for moderate sugar, and 20 or 10 units for no sugar. In this way the patient is supplied with adequate amounts of sugar and insulin but is safeguarded from hypoglycaemia. The choice of what carbohydrate to give, the urine testing, and insulin dosage can be carried out by an efficient nurse. Abundance of fluid should be taken by mouth.

This treatment usually removes all ketosis in twenty-four to thirty-six hours, and a change can then be made to three or two doses of insulin a day. The patient may remain drowsy for many hours after the ketosis is lessening, and if the pulse is good no alarm need be felt.

General Treatment

Apply warmth and complete rest, as in all cases of collapse. Circulatory stimulants are usually indicated: strophanthin, 1/100 grain ; coramine, 1–2 c.cm. ; caffeine, 3 grains ; adrenaline, 3 minims—subcutaneous and repeated. Bicarbonate of soda is not essential, but hastens the removal of the acidosis (2 drachms four-hourly up to 1 oz. in total). The bowels should be opened by aperient or enema, but drastic purgatives may cause collapse. Sepsis and toxaemias, often the cause of the coma, must be sought for and treated.

Dehydration and Circulatory Collapse

Some patients may be seen for the first time in profound coma, with intense dehydration and circulatory collapse, a rapid and almost imperceptible pulse, and a blood pressure under 70 mm. Hg. These require insulin and sugar treatment as above, but still more fluids to restore the body fluid lost by polyuria and vomiting. In such cases large amounts of intravenous normal saline are immediately necessary. One or two pints is not enough, and frequently three to six pints must be given slowly over one to two hours' infusion to restore the circulation. Such infusions should be continued in whatever amounts are necessary to restore the eye tension and bring the blood pressure over 100 mm. Hg. The best procedure is to give these large amounts of intravenous saline at first and to continue them later with added 5 per cent. glucose by continuous drip infusion into a vein. This may be necessary for twenty-four to forty-eight hours to resuscitate profoundly collapsed cases, and it is obvious that such treatment can be performed only under hospital conditions. Fluids, glucose, insulin, and any necessary stimulants (adrenaline, 2 to 3 minims) can be given in the continuous intravenous infusion. If circumstances are such that intravenous therapy is impossibly difficult, rectal normal saline or 5 per cent. glucose can be administered (remember that their retention is doubtful) ; or, better, normal saline with 5 per cent. glucose subcutaneously in the breasts or axillae.

Difficulties in Desperate Cases

A not infrequent complication is oliguria or even anuria when the blood pressure is extremely low or dehydration extreme. Urine is usually present in large amounts in the bladder when the patient is first seen, but after this may become so scanty as to be insufficient for tests to regulate the insulin dosage. In such cases some 40 grams of carbohydrate and 20 units of insulin should be administered four-hourly, unless blood-sugar control is to hand. In such cases blood tests may show that the insulin is not reducing the blood sugar, and one may be tempted to prescribe much larger doses—100 to 200 units or more. I am doubtful if these large doses are of greater value, the failure to act being due to the poor circulation and the failure of tissues under such conditions to perform any metabolic exchanges rather than to an insufficiency of injected insulin. If enormous doses have been injected and recovery results hypoglycaemia must be watched for later. It is almost certain that the absolute level of the blood sugar does not matter and that sufficient insulin and glucose will always bring about recovery if circulatory collapse can be averted.

The treatment of diabetic coma can be thus summarized: (1) Treat the ketosis with repeated and large doses of insulin and sugar to balance it. (2) Correct dehydration and prevent circulatory collapse by abundance of fluids.

LONDON UNIVERSITY CENTENARY

LONDON SCHOOL OF MEDICINE FOR WOMEN

A luncheon party in honour of the centenary of the University of London was given at the London (Royal Free Hospital) School of Medicine for Women in Hunter Street, Bloomsbury, on July 2nd, with the dean, Miss Bolton, M.D., in the chair. The guests of honour were the Earl of Athlone, Chancellor of the University, the Right Hon. Oliver Stanley, President of the Board of Education, Sir Alan Garrett Anderson, M.P. for the City of London, and Lady Barrett, President of the Medical School. The chairman prefaced the toast of "The University of London" with a few words of welcome to all the guests, particularly the foreign and Dominion delegates, the Members of Parliament, of City companies, and of the London County Council. Miss Bolton said that they were honoured by the presence of the Chancellor, and she thanked Lord Athlone for the keen and friendly interest he took in all the departments of the university. They were proud that London University had been the first to open its doors to women on equal terms with men. They were glad to have among them also the President of the Board of Education, thus showing his interest in the training of medical women ; Sir Alan Anderson, whose work for the school and hospital was known to every past and present student ; and Lady Barrett, also "one of us." The Chancellor, in a brief reply to the toast, confessed that he had earned a bad mark for not hitherto managing to visit the school, but he was delighted to be with them that day in the presence of so distinguished and representative a gathering. He rejoiced in the success of the London School of Medicine for Women and gave it an assurance of continued support from the university authorities. Even if there was still a slight prejudice against women doctors in some quarters he did not think there was any reason to worry, because every day women were gaining their position. He knew it was not very easy to find work for all the women doctors the school would like to turn out, but this in time, he thought, would right itself, and there was certainly need of them in many places. After luncheon the school and hospital were on view to the guests, who included medical delegates from Canada, Australia, India, Ceylon, Malta, the United States, France, Sweden, Switzerland, Turkey, Rumania, and Estonia.

Luncheon at St. Mary's Hospital Medical School

Among the many celebrations in connexion with the centenary of London University was a luncheon given by the dean and staff of St. Mary's Hospital Medical School

on July 2nd. After the loyal toasts had been honoured, Sir John Simon proposed "The University of London." The health of the University of London, he said, had been the topic of so many pronouncements during the past week that it was difficult to find anything new to say. Speaking at St. Mary's, he would like to draw attention to the fact that the science which prolonged human life was not being called to the bed of a sinking centenarian, but was celebrating its youth. A hundred years ago there were a number of active men to whom London University owed a great deal, and Sir John mentioned Jeremy Bentham, who incidentally left his skeleton to University College, and George Grote, the historian, who was a generous benefactor to the University. Among those present at the christening of London University were two Scotsmen—Henry Brougham, a reforming lawyer, who said that it would be a good thing if the upper classes had a modicum of scientific learning; and Thomas Campbell, the poet, a devoted reformer and fierce champion of human rights, who played a great part in the foundation of the University. Although his poetry was probably not much read these days, most of those present no doubt knew one of his lines: "Distance lends enchantment to the view." These early pioneers held that the gates of the highest learning should be open to all regardless of their religion, and one of the great achievements of London University had been that it broke down barriers which formerly existed. He looked with great respect on London for the lead it gave to the admission of women to university degrees. It was strange, he said, that our ancient universities grew up so far from the metropolis. What London University had lacked was a local habitation, and in wishing the University a long life and prosperity they all rejoiced that it would be centrally housed on a magnificent site in buildings worthy of its founders.

In response the Vice-Chancellor, Mr. H. L. Eason, gave a short account of the career of Lord Brougham, who had done so much towards the foundation of the University—the man of whom it had been said that if he had learned a little law would have known something about everything. In London the medical faculty had more students than any other faculty, and medicine had always been prominent in the life of the University, no fewer than nine medical men having been Vice-Chancellors. In thanking St. Mary's Hospital Medical School for their hospitality he said that, speaking on behalf of London University, he hoped that the medical school would have a great and successful future. In welcoming the delegates Lady Galway said that they provided one object lesson which might be applied to Europe at the present time—namely, that they had learned to combine a deep affection for the home country with a loyalty to the Commonwealth. The toast was responded to by Professor W. P. C. Zeeman, Rector of the University of Amsterdam. The delegates were also welcomed by the dean of the medical school, Dr. C. M. Wilson.

Conversazione at Bart's

To commemorate the opening of the new medical college of St. Bartholomew's Hospital and the centenary of the University of London, a conversazione at the college was held on the evening of July 2nd, the guests being received in the college hall by Lord Stanmore, treasurer of the hospital and president of the medical college, and by Mr. W. Girling Ball, the dean. An account of the new departments in the medical school appeared in the *Journal* of July 4th (p. 36), and it is sufficient to say here that the visitors took a great interest in the demonstrations that had been arranged for them, especially those in the department of anatomy. The purchase price of the site and buildings and the sum required for alteration and additions amount to £200,000, towards which £178,720 has already been collected. It is hoped in the future to complete the scheme by building a residential college at an approximate cost of £30,000.

MATERNAL DEATHS IN CHESHIRE

MEETING OF THE MEDICAL PROFESSION

A meeting of the Cheshire practitioners was held last month at Eaton Hall, by the kindness of the Duke of Westminster, to discuss the report of the maternal mortality subcommittee appointed last September by the Local Medical and Panel Committee to review the maternal deaths in the county during the last three years. The report of the subcommittee is the subject of an article in our editorial columns.

The meeting was presided over by Dr. JOHN KERR of Hyde, who referred at the outset to the recent greatly regretted death of Dr. R. T. Turner, a man who had been much interested in this inquiry and who was to have presided over the meeting. The subcommittee, under Dr. Turner's chairmanship, had laboured very conscientiously, holding twelve long sittings and its members carefully studying beforehand all the information available. Apart from the county administrative officers, the subcommittee consisted of general practitioners, familiar with the difficulties of the domiciliary conduct of midwifery. It had approached its task in no censorious spirit. Having the facts assembled, it had endeavoured to present them in their true significance, and to make recommendations which would be of value to the maternity service of the county.

Dr. IAN MACKAY, county medical officer of health, said that Cheshire had not been backward. Ante-natal clinics had been established for some years, and specialized facilities and hospital beds had been provided for difficult cases. Midwives had been subsidized in areas where they could not economically practise. More recently a general practitioner ante-natal scheme had been developed, and "home helps" had been provided. Unfortunately the maternal mortality rate remained obstinately stationary.

Avoidable Factors

Dr. LIONEL PICTON, honorary secretary of the committee, gave a brief outline of the report, and spoke of the important part played by maternal nutrition: Shortage of vitamin A and indeed of all vitamins was only too common among working-class people. Vitamin B was important to the tone of the uterus; therefore wholemeal bread was indicated with its full quota of wheat germ unspoiled by superheated steam, which destroyed vitamin B_1, and was the method adopted in some large mills to make flour "keep." Milk and green-leaf vegetables were called for in larger quantities. After analysing the case histories and assessing the avoidable factors, Dr. Picton said that as case after case was reviewed the members of the committee seemed to arrive at a new vision of the processes of parturition as a rhythm, in the preservation of which moral reassurance, quiet control, and maintenance of strength by such means as a sip of glucose water or hydromal between pains were all of value, while if secondary inertia intervened, sedatives such as chloralamide or one-sixth of a grain of morphine gave respite until the uterus had recovered. Forceps often gave rise to trauma, trauma to haemorrhage and shock and the entry of infecting organisms. Moreover, the rhythm was broken, and delay and danger in the third stage were more common after the use of forceps than after spontaneous deliveries. The unnecessary application of forceps was a primary avoidable factor; to avoid it required only courage to resist the importunities of relatives, the nurse, perhaps the patient herself.

Dr. JAMES MURPHY of Middlewich pointed out that in thirteen cases out of the whole series of sixty-seven investigated no ante-natal examination at all was made, and in others it appeared that the ante-natal findings were not appreciated, or at least not acted upon. In the series of deaths he had been struck by the large proportion of cases described as adherent placenta; in his own practice he had found this a rare condition. He had also been surprised to find craniotomy performed several times. He did not think this was ever justifiable with a

living child ; early induction or Caesarean section should now entirely replace it. He mentioned the unfortunate habit of some midwives of making frequent vaginal examinations. It was a wrong procedure to make frequent examinations to estimate the progress of labour. Dr. Murphy gave details of the method he had found most effective in his own practice for the cleansing of the parts and also for rendering as nearly sterile as possible the hands of the obstetrician.

Management of the Placenta

Dr. N. A. BOSWELL of Runcorn said that success or failure depended not on a single factor but on the thoroughness of the supervision and the soundness of the judgement and technique throughout the whole period of gestation and parturition. It was often said that labour was a normal physiological process ; individuals, however, had so far departed from the physiological normal that all too often the doctor found himself confronted with the pathological. Therefore to establish and safeguard the normal rhythm of labour care must be taken to exclude all adverse factors from the beginning. The mind of the expectant mother must be composed, mutual confidence established between patient, nurse, and doctor, and the fussiness of relatives controlled. The patient's health must be constantly under review so that conditions such as anaemia, nephritis, and malnutrition, with calcium or vitamin deficiency, received due attention. When labour began the normal processes should have the fullest leisure to carry out their work spontaneously. It was in the management of the placenta in a number of cases that the primary avoidable factor was found. It was impossible to over-emphasize the importance of correct management of this third stage of labour. Hesitation and absence of any clearly defined routine seemed to lie at the bottom of the bad results. Patience was the keynote of good management of the third stage. After the birth of the baby until the expulsion of the placenta and membranes the left hand should be placed lightly on the fundus and kept there ; thus it was possible to detect whether the uterus was filling with blood, and when the placenta had separated. In the absence of undue haemorrhage the placenta could be safely left for from one and a half to two hours, but on the first indication of severe haemorrhage active steps should be taken to express the placenta by Crédé's method. Manual removal, with due aseptic precautions, should be only a last resource. Injection into the placental veins of glycerin or sterile saline solution could usefully be employed as an alternative method devoid of the risks of manual removal.

Post-partum Haemorrhage

Dr. ROBERT OKELL of Winsford said that there were two types of post-partum haemorrhage, the sudden "waterfall" type and the small, unnoticed trickle. Both were likely to result in exsanguination and death. The ideal treatment was blood transfusion, but until there was an organized service in Cheshire reliance must be placed on other methods ; gum saline might be used. It was logical to assume that in the majority of cases of puerperal fever and pyrexia the infective focus was situated within the uterus or vagina. A low vaginal douche was permissible in these cases, but his experience of the remarkable effect of introducing glycerin into the uterus had convinced him that it was the only effective method of treatment so far known. The external genitalia of the patient having first been cleansed, she was placed as nearly as possible in the lithotomy position, and the glycerin, which had been sterilized, was injected slowly into the uterus to the amount of about 2 oz., according to a technique which he carefully described. The procedure was repeated once every twenty-four hours until the temperature remained normal.

Dr. H. D. BRICE of Dukinfield advocated the attendance of a doctor at all confinements, whether normal or abnormal. In Cheshire an expectant mother in poor circumstances could obtain the services of a midwife, she could obtain from her family doctor all ante-natal examinations required, but when her confinement started she lost the services of her doctor unless some emergency happened. The drawback to the county council scheme was the cessation of medical supervision at the end of ante-natal work, except at the direction of the midwife. During or after a confinement serious difficulties might arise which the midwife was forbidden to treat on her own responsibility, but if she sent for the doctor too soon she ran the risk of being called incompetent, and if she delayed and the case went wrong she encountered still more serious blame. The doctor, again, was compelled to start treatment at the point where the midwife had felt disposed to stop. The family doctor should be in control of the case from start to finish, the midwife acting in co-operation with him, as a theatre nurse acted with a surgeon. County councils should be given power to pay doctors for attendance at normal as well as abnormal cases, a reduced fee being charged for the former, and the doctor's midwifery fee might be made an additional benefit by approved societies.

The Antisepsis of Midwifery

Mr. F. G. RALPHS of Ashton-under-Lyne, in moving the adoption of the report, said that it represented the first collective investigation into maternal mortality by men actively engaged in the practice of obstetrics in the county. Few would cavil at its main conclusions. With regard to antiseptics and skin preparation, he agreed with the recommendation placing reliance on soap and water and a nail-brush rather than on antiseptics, which gave a sense of false security and were only supplementary. Some writers on obstetrics urged practitioners to emulate the ritual of the operating theatre, a stupid analogy, for really there was no such thing as aseptic labour, the proximity of the rectum to the birth canal rendering it impossible. In grave systemic infections of the puerperium the intravenous administration of so-called bactericidal agents such as mercurochrome or antitoxic serums had been frankly disappointing. In his own hands they had proved useless and even dangerous to the patient. Much more knowledge of the many strains of the streptococcal group was required before progress on these lines could be achieved, and the factor of individual resistance also had to be considered. Little was known of the defence mechanisms of the body, and in the future the science of immunology might make fundamental contributions to the solution of puerperal sepsis.

Dr. ROBERT COOPE of Liverpool, in seconding, congratulated the committee on the broad view it had taken of its problem. He was glad that strong emphasis had been laid on proper nutrition. Even apart from maternal death, a woman might be needlessly crippled in various ways by pregnancy, and it was not always realized that not only the poor but also the well-to-do might develop a nutritional anaemia in the course of one or more pregnancies. Though the diet appeared adequate in quantity it might be seriously lacking in quality. Even under seemingly excellent conditions a woman might show a fall of anything from 5 to 15 per cent. of haemoglobin in the course of pregnancy, so that the chances of a nutritional anaemia were not necessarily remote even in patients not driven by economic pressure to undernutrition. The physician consulted about heart disease, phthisis, or hyperthyroidism associated with pregnancy must needs consider carefully the condition of the heart muscle and its reserve. It was just as important to assess the influence of an anaemia on the cardiac reserve, for though it might be less dramatic than, say, mitral stenosis with congestive heart failure, and though it rarely caused maternal death directly, it could seriously cripple a woman long after pregnancy was over. The report very wisely emphasized the prophylactic value of suitable diet and the need for the recognition and proper treatment of anaemia in pregnancy.

The resolution to receive the report was carried unanimously, and on the motion of Dr. F. M. FELLOWS of Poynton, seconded by Dr. R. F. GERRARD of Wirral, the Duke of Westminster was thanked for his hospitality.

THE ASSOCIATION'S FIRST WORLD TOUR

IN ILLUSTRATED CHRONICLE

It was rightly regarded as essential by all who took an interest, whether by participation or otherwise, in the visit of the British Medical Association to Melbourne last year and in the World Tour arranged in that connexion, that an official chronicle of the expedition should be compiled. Fortunately Dr. S. Watson Smith, President in 1934–5, was himself able to take part in the tour; and he has placed the Association more deeply than ever in his debt by taking upon himself the responsibility of this onerous task. In compiling his *Chronicle of the First World Tour of the British Medical Association*[1] the main difficulty which confronted him has been, probably, that as the official head of the whole party he necessarily had to meet the various deputations of welcome from the local profession at all "ports of call" both by land and sea; had necessarily to accept their hospitality and make speeches in reply to theirs; and was thus sometimes less free to make unfettered use of his time than less exalted members. It follows that he has, quite properly, felt it his duty to report such State occasions and the lists of those who took part in them more fully than an unattached observer need have done; and his narrative loses a little of the lighter touch in consequence. The author is himself well aware of this limitation imposed upon him by circumstances.

It will be recalled that on the outward journey as far as the Pacific coast of America the B.M.A. party travelled in two separate sections, tolerably equal in numbers: one section took the route via Liverpool, St. Lawrence River, Montreal, Toronto, Lakes Huron and Superior, Port Arthur, Banff, to Vancouver; the other section travelled from Southampton via New York, Washington, Chicago, Grand Canyon, Los Angeles, and San Francisco, where they joined the Canadian party on the *Aorangi* for the voyage across the Pacific to Melbourne. Similarly, on the return journey from Melbourne as far as Singapore there were two boatloads (on the *Nieuw Zeeland* and the *Marella* respectively). From the latter port homewards both sections were once more reunited on the *Rajputana*. Consequently Dr. Watson Smith has had to rely on the help of colleagues in chronicling those sections of the tour from which he was an absentee; and he chose his assistants wisely, for their contributions are of equal value and interest to his own daily diary, even if rather more condensed.

Since the motive of the tour was to attend the Annual Meeting in Melbourne, it is fitting that the account of the week spent there should be more detailed than other parts of the narrative. Certainly our members had a very busy time there, receiving that lavish hospitality for which Australians are famous: it was said that no patient dared be ill in the city during that week, for the doctors were much too busy entertaining their visitors to be bothered with work. If this was a libel, at least it was true that when that hectic week was over some of the senior members, both among hosts and guests, were beginning to feel the strain. The author does full justice to the unvarying kindness with which he and all the visitors were treated, and to the wonderful sights and scenes in Australia exhibited to them. Both the outward and homeward voyages were also, of course, full of interest: space does not permit Dr. Watson Smith to deal in full detail with every place visited—his chronicle would have run into two volumes instead of one had he done so; but he might, one thinks, have given the marvellous temple ("dagoba") of Borobudor in Java rather more than the nine or ten lines allotted to it. He remarks on the stifling heat of the outward Pacific transit, which bothered very few of the voyagers; but does not seem to have been affected by the heat in Java and in the Malay States, which really was something to "write home about" in the opinion of many who already knew of the Tropics by experience. Only one coral atoll was passed at close range by the *Aorangi*—namely, Canton Island—also known as Mary Island. Our impression is that this was seen on the port bow, not the starboard, as stated by the chronicler; there are one or two other trifling slips of equally slight importance here and there.

In retrospect, the impressions and recollections of this amazingly successful and enjoyable visit cannot fail to be pleasurably enhanced by the (then) President's commemoration of it; and a special word of praise is due in the same connexion to the very varied and well-selected gallery of snapshots reproduced in the book, lent by numerous of the camera experts among the company. These charming illustrations round off the completeness of Dr. Watson Smith's chapters most artistically and effectively, and combine with the narrative to form a most effective souvenir of a very memorable event.

[1] *The Chronicle of the First World Tour of the British Medical Association, 1935.* By S. Watson Smith, M.D., F.R.C.P.Ed. Bournemouth: The Richmond Hill Printing Works Ltd. 1936. (Pp. 238; illustrated.)

SCOTTISH HEALTH SERVICES

DEPARTMENTAL COMMITTEE'S REPORT[1]

(*Continued from page 25*)

Having thus determined the basis on which all medical and allied service should be established, and having definitely concluded that this could not, and should not, be provided by whole-time practitioners, the Committee goes on in succeeding chapters to review the present special services dealing with maternity and child welfare, with school children, with infectious disease, tuberculosis, and venereal disease; and also the Poor Law, the national health insurance, and the Highlands and Islands Medical Services.

Maternity and Child Welfare

The Committee's recommendations as to the development and unification of the special services are all consistent with the principle of utilizing the family doctor or general practitioner to the fullest extent and for allowing free choice so far as this is possible in every case. For example, in relation to maternity the conclusions are:

"The problem of maternal welfare calls for the provision of a comprehensive maternity service, with the object of preserving the lives of parturient women, avoiding invalidism among mothers, and preventing the wastage of infant life. The maternity service should be based on the doctor and midwife acting in concert, supplemented by consultants and institutional facilities. The need for continuous medical supervision by a general practitioner would be met by an arrangement linked up with our proposals for extension of general practitioner services. It should be part of the arrangements with the general practitioner under the maternity service that he should provide continuous ante-natal supervision, should be available for consultation at every stage of labour and the puerperium, and should report on the case to the local authority, the report to include the result of post-natal examination."

In the section on maternity there are two paragraphs relating to doctors and two relating to midwives which are of peculiar importance in view of present discussions:

"It is generally agreed that every pregnant woman should have available the services of a doctor for continuous ante-natal supervision and for consultation, if necessary, at any stage of labour or of the puerperium. Our proposals for an extended general practitioner service, with an arrangement for the doctor giving attendance at confinement, will meet this need, and will secure that, in general, the necessary continuous medical supervision will be provided by the family doctor. Assuming a midwife in continuous attendance, we assume that the doctor should be available for attendance during the confinement, and should be required to report on the case to the local authority, the report to include the results of post-natal examination. The question of cost, in our view, should not stand in the way of the provision of an anaesthetic where that is considered necessary."

"We recognize that some doctors do not desire to undertake midwifery practice, and in an organized service it should be possible to devise arrangements by which these doctors would not provide midwifery services. It should be possible for an expectant mother to arrange with her family doctor to be attended by her own midwife and a doctor specialized in

[1] Department of Health for Scotland. Committee on Scottish Health Services Report. Cmd. 5204. H.M. Stationery Office. 1936. (6s.)

midwifery. The doctor specializing in obstetric work for such a case should not rank as a consultant, but should receive the same remuneration as the family doctor would have received. In general, however, we consider it desirable, taking the long view of the future of medical practice, to encourage the practice of midwifery by the family doctor and to build up the maternity service on the foundation of doctor and midwife."

"Midwives at present are badly paid and their status is poor, conditions that are not favourable to a high standard of service. In our opinion improvement in the status and remuneration of midwives is urgently called for. Whether they should be employed on a salaried and whole-time basis, or by fees for work done, may have to be determined in the light of local circumstances. A whole-time service under the local authorities might be suitable in some urban areas, whereas in rural areas the services of midwives could be more appropriately secured by arrangement with the district nursing associations."

"We are not satisfied that the practice of midwifery should be restricted to persons who have qualified and been registered as trained nurses. Provided the entrance examination to the course of midwifery is sufficiently selective, and the course itself is thorough and practical, there seems to us to be a place for the trained midwife who is not also a registered trained nurse. It is probable that if the status and emoluments of midwives are improved many trained nurses who are qualified to act as midwives, but who at present do not practise as such, will adopt this branch of the profession as a career."

The report strongly urges that child welfare schemes for those under 5 years of age and the school medical service should be developed together as a single service. Both these services at present are "seriously hampered by the inadequacy of medical supervision at home. The co-ordination and extension of medical services proposed should meet the need for domiciliary medical attendance and supervision and enable the authorities to develop their schemes in co-operation with family doctors." It is recommended that routine school medical inspection should be continued and that "the possibility of using the school health service for the examination of entrants into industry should be carefully considered."

Infectious Diseases

Similarly, in the case of infectious diseases, tuberculosis, and venereal disease, it is recognized that the special arrangements made are less effective than they should be owing to the absence of organized provision for domiciliary medical attendance, and that here again the proposed extended general practitioner service is essential and should be closely linked with these services. With regard to small-pox, the Committee finds that about half the population of Scotland is unvaccinated, and says:

"Scotland has been free from major epidemics of small-pox for many years, and this is undoubtedly the main reason for the large increase in the proportion of children who are unvaccinated. The danger still exists, and we accept the view that the best protection would be routine vaccination and revaccination of all members of the community. We do not regard the enforcement of such a measure as practicable. On the other hand, we do not think it would be expedient to repeal the Vaccination Acts; repeal might create the false impression that vaccination is of no value. We accordingly recommend, on the assumption that the machinery for general vaccination in emergency is kept in readiness, that there should be no change of policy."

Public Medical Services

The conclusions and proposals of the Committee in connexion with medical attendance under the Poor Law, under national health insurance, and under the Highlands and Islands arrangements are on the same general lines. The first of these services is regarded as unsatisfactory on past and present methods, while the other two are reported upon as being satisfactory and successful. Comment upon the recent changes made by the Glasgow Corporation in its Poor Law service is commendably drastic:

"Local authorities are aware of the general dissatisfaction with the Poor Law medical service, and since the transfer of functions in 1930 many town councils and county councils have endeavoured to improve the service. The most drastic change has been made by Glasgow Corporation, who have established a whole-time salaried service for the Poor Law class. We are inclined to the view that if there were no possibility of a national policy for the co-ordination and extension of general medical services other authorities for large urban areas might follow Glasgow's example. Like various efforts at improvements in other areas, however, Glasgow's policy cannot provide continuity of medical supervision or overcome the other difficulties inherent in a separate service for persons only when they are destitute; and, as we have shown in Chapter XII, it cuts across what are regarded by informed medical and lay opinion as the sound lines of development of national health policy in relation to home medical attendance."

"The most satisfactory way," says the report, "in which the obligation to provide medical attendance for the sick poor can be discharged is through the general medical service. . . . The essential thing is to bring the medical treatment of the sick poor into line with that of other classes, and to ensure that, for as many persons as possible, poverty will not interrupt continuity of medical supervision by the family doctor. . . . The earliest possible lead should be given to local authorities so that they may avoid developments that would cut across national policy." On the national health insurance service the Committee summarizes its conclusions thus:

"The evidence submitted to us from all quarters points to the success of the medical service under the national health insurance scheme. In various chapters we have made recommendations that affect this service. The broad effect of these is to endorse the principles on which it is based and to apply them, so far as possible, in meeting the urgent medical needs of other classes. Our proposals contemplate a co-ordinated and complete medical service in which the general practitioner acting normally as family doctor, will act in liaison between the homes of the people and the facilities provided by statutory and other agencies. The co-ordination of the general practitioner services with the other medical services, in our view, will remedy one of the principal weaknesses of these services as they are organized at present; it seems to us to be essential also for the proper development of the health policy of the nation."

And of the Highlands and Islands Service it says:

"The Highlands and Islands Medical Service has been an outstanding success, and is universally approved. On the basis of the family doctor there has been built up by flexible central administration a system of co-operative effort, embracing the central department, private general practitioners, nursing associations, voluntary hospitals, specialists, local authorities, and others, to meet the medical needs of the people. No change of circumstances has occurred that would justify any interference with the normal development of the Highlands and Islands Medical Service under the present administration."

It adds that, except as regards some of the financial arrangements, the proposal to establish a general medical service for Scotland on the lines of the report will not affect the general principles of this special service.

Hospital Services

The report passes on to consider hospital services. These services have been reviewed in recent years by several authoritative bodies and are at present being considered by the Voluntary Hospitals Commission set up by the British Hospitals Association. Although this part of the report is restricted in order to avoid going over ground that has already been covered, it is difficult to make a summary. It discusses succinctly the insufficiency of hospital accommodation, the position of voluntary hospitals, the importance of their continuance, and of co-operation between what are called "statutory hospitals" among themselves, between voluntary hospitals among themselves, and between the one class of hospitals and the other. The conclusions as to the need for these forms of co-operation and their nature, and as to the grouping of hospitals within fairly wide topographical areas, bear a family resemblance to those which are emerging from similar inquiries in England. It is not necessary to suppose that the extensive powers which the report suggests should be conferred upon the Scottish Health Department to this end must in the more extensive and diverse conditions of England and Wales be possessed by the Ministry of Health, but some helpful machinery must certainly be devised in both countries. The actual recommendation of the report is as follows:

"It has become necessary, in order to secure an adequate hospital service and at the same time to safeguard the voluntary hospitals and to ensure their continuance and development,

to recognize the voluntary hospitals as an integral part of the health services of the country and to bring them under a measure of general supervision and direction of the central health department. Such supervision need not, and in our view should not, interfere with the autonomy of each hospital in its internal management. What is necessary is to secure that the Department are placed in a position to correlate developments as between voluntary and statutory hospitals in any area and as between hospitals, whether statutory or voluntary, in one area and those in another. This can be secured by requiring the Department's approval of all proposals for extension of hospital facilities (buildings and sites), whether these are proposed by a voluntary or by a statutory body, and by vesting a power in the Department, in the last resort, to veto proposals. We recommend that the law should be amended accordingly ; and in submitting this recommendation we desire to make it clear that, in our view, some such course is necessary in the interests of the voluntary hospitals. Our intention is to strengthen the position of these hospitals."

Further important proposals are that the State should recognize the services of teaching hospitals in respect of their providing educational facilities, a special grant being made available for this purpose ; and that the voluntary hospitals should be exempted from the payment of legacy and succession duties and should be granted remission from rates.

The Mental Health Service

In the chapter on the mental health service the main points are put thus:

"(1) Mental and physical disease are intimately related, and there should be the closest possible association between measures to improve mental health and those to improve physical health. There is an increasing public appreciation of this association and an increasing readiness to seek treatment for mental illness at a much earlier age than formerly. It follows that the general medical practitioner should form the first line of attack. Here, as in other fields, he is in the best position, assuming proper training and right outlook, to discover the earliest departures from normal and to give the appropriate advice as to the specialist treatment necessary. (2) The lunacy laws should be revised and consolidated, and additional facilities for early diagnosis and treatment should be provided by the establishment of psychiatric clinics at *general* hospitals ; (3) there is room for development of child guidance clinics, and education authorities should be empowered to provide and assist them ; (4) the law relating to mental deficiency should be amended to give a more satisfactory definition of mental defect, to enable children under 5 to be placed in institutions without recourse to certification, to extend the provision relative to the training of children and young persons, and to make more satisfactory provision for after-care."

Industrial Health Services

The industrial health services are mainly governed by the Factory and Workshops Acts and under the supervision of the Home Office. Suggestions have from time to time been made that the medical services associated therewith should be separated from the rest and transferred to the administrative control of the central health departments. It has been felt, however, that it would be unwise to separate the medical from the other branches of factory inspection, because all branches are concerned with health conditions. Nevertheless the Committee reports that

"The separation of industrial health measures for the promotion of the health of the people is undesirable. Closer liaison arrangements should be made by the Department of Health, the Home Office, and other departments concerned for the pooling of knowledge and for joint action on common problems."

With regard to ancillary and allied services it is suggested (1) that it is impracticable to establish a complete dental service at present, but that the school service should be professionally developed ; (2) that a full review of the work and status of the home nurse, health visitor, hospital almoner, and ancillary professions engaged in welfare work should be carried out after the extended medical service has been in operation for some years ; (3) that the existing arrangements under the national health insurance scheme should be applied to the proposed extension of general practitioner services, but that for other services local authorities should be free to make other arrangements, though the opinion is expressed that the Glasgow method of a municipal drug service is not generally practicable.

(To be concluded.)

Nova et Vetera

ESSAYS IN ANTHROPOLOGY

A TRIBUTE TO R. R. MARETT

The volume entitled *Custom is King*[1] is a tribute which colleagues and pupils paid to Dr. R. R. Marett, Rector of Exeter College, Oxford, and Reader in Social Anthropology in the University, on the occasion of his seventieth birthday on June 13th. Dr. Marett said then that the young and thriving School of Anthropology in the University of Oxford was founded by three men. Two were Scots—the late Professor Arthur Thomson, who taught human anatomy in the university for over forty years, and Professor Henry Balfour, who contributes the first of the twenty essays included in this *Festschrift*. The other founder was Dr. Marett himself, who is a Jersey man. Indeed, some of his most remarkable discoveries have been made in his native island. It was he who proved that Jersey had at a remote period been the home of that extinct species of humanity known as *Homo neanderthalensis*.

Dr. Marett has touched the wide subject of anthropology at many points and inspired research in many directions—particularly into the customs, manners, religions, and modes of thought of primitive peoples. Hence *Custom is King* includes amongst its twenty essays many which will make a direct appeal to psychologists and many other medical men. Dr. L. H. Dudley Buxton, in one of the essays, sums up the conclusions he has reached regarding the extent to which Saxon replaced native Briton during post-Roman centuries in the centre of England—represented by the district round Oxford. Historians believe that there was a complete substitution —at least of speech, house and home, and mode of living. This may have been so, but the result reached by Dr. Dudley Buxton, after a prolonged study of the men and women buried in British and in Saxon cemeteries, is that so far as the population of the district was concerned there was no great change—at least in racial type. We are apt to think of the native Briton or Celt as being racially very different from the Saxon. No doubt politically and culturally they were very different. And yet physically they were so alike that it is difficult to tell the skull or skeleton of the one from those of the other. Dr. Dudley Buxton finds the height of skull affords the best means of telling Saxon from native ; the Saxons have, as a rule, the higher head. It may be inferred that the Celts and Saxons who invaded Britain were derived originally from the same Continental stock.

Another essay which will appeal to the archaeologically minded is by Mr. O. G. S. Crawford of the Ordnance Survey, who was the first to use photographs taken from the air for the discovery and elucidation of sites occupied by prehistoric man. In the essay contributed to Dr. Marett's volume he sums up the results of his inquiries into the tracks followed by early seafarers, traders, and pilgrims in their journey between Ireland and Mediterranean lands. Although, even in early days, voyagers proceeded direct by sea from distances as far apart as the mouth of the Garonne and the coast of Ireland, yet whenever a track across a peninsula could save a voyage by sea they took the shorter land route. Many of the essays represent studies made amongst native peoples. Mr. E. E. Evans Pritchard, secretary of the Royal Anthropological Institute, gives a graphic picture of the everyday life led by the Nuers, a pastoral people of the Sudan.

During the Annual Meeting of the British Medical Association at Oxford Dr. Marett will give the Popular Lecture in the Sheldonian Theatre on Friday, July 24th, and he has appropriately chosen as his subject "Anthropology and Medicine."

A. K.

[1] *Custom is King.* Essays Presented to Dr. R. R. Marett on his Seventieth Birthday. Edited by L. H. Dudley Buxton. London: Hutchinson's Scientific and Technical Publications. 1936. (Pp. 325 ; illustrated. 12s. 6d. net.)

MEDICAL RESEARCH COUNCIL

TRAVELLING FELLOWSHIPS

The Medical Research Council announces that it has made the following awards of travelling fellowships in respect of the academic year 1936–7:

1. *Medical Research Council Fellowships in Medical Science:*
   JUDSON TYNDALE CHESTERMAN, F.R.C.S., M.R.C.P.
   HERBERT EDWARD HOLLING, M.B., M.R.C.P.
2. *Dorothy Temple Cross Research Fellowships in Tuberculosis:*
   ALAN LEON JACOBS, B.M., M.R.C.P.
   JOSEPH SMART, M.B., B.Chir.
   BRIAN CONNOR THOMPSON, M.D.
   VERNON CECIL THOMPSON, M.B., F.R.C.S.
3. *Leverhulme Fellowship in Medical Science:*
   ALAN RUSCOE CLARKE, M.B., F.R.C.S.
4. *Rockefeller Fellowship in Psychiatry:*
   JUDA HIRSCH QUASTEL, Ph.D., D.Sc.

The fellowships under the first and second headings were awarded by the Council itself, and those under the third and fourth headings respectively by the Leverhulme Research Fellowships Committee and the Rockefeller Foundation of New York, on the recommendation of the Council.

ANGLO-FRENCH SURGICAL MEETING

MEMBERS OF THE ACADÉMIE DE CHIRURGIE IN LONDON

By invitation of the President and Council of the Royal College of Surgeons of England members of the Académie de Chirurgie met at the College on July 6th, when there was a discussion on the treatment of fractures of the neck of the femur by open operation, introduced by Professor Hey Groves, followed by a short address by Dr. John Beattie, conservator of the College museum, on recent research work on surgical problems carried out in the College laboratories. At the conclusion of the proceedings the visitors were entertained at luncheon at St. Bartholomew's Hospital, and afterwards saw operations and demonstrations, and there was a reception at the College at night. On the following morning a visit was paid to the Buckston Browne surgical research farm at Downe, and in the afternoon to the London Hospital.

Sir CUTHBERT WALLACE, who presided over the proceedings at the College, welcomed the visitors, saying that although the constitutions of the English and the French institutions were different, they had the common aim—the advancement of surgery. A response was made by General H. ROUVILLOIS, President of the Academy, who said that he and his colleagues were very pleased to have the opportunity of showing how highly they valued the friendship of the surgeons of Great Britain. They could not forget that when leaving French soil they passed the graves of innumerable British soldiers who died gloriously in defence of their common liberties, and their magnificent example reminded them that the union of France and England made it possible to win the greatest victories, in peace no less than in war. "We want to know each other better, for the more we understand each other the more we shall like each other."

Fractured Neck of Femur Treated by Open Operation

Professor E. W. HEY GROVES, in introducing the subject, said that the usual classification of fractures of the neck of the femur was into subcapital and transcervical, which had marked tendency to non-union, although actual displacement of fragments was slight; and basal and pertrochanteric, which manifested great displacement, but presented no difficulty in union and were easily treated by skeletal traction. He confined his remarks to the first of these groups, the treatment of which was still matter of debate. These fractures were almost entirely intracapsular, and were difficult to treat because the head of the bone had a very poor blood supply and there was the tendency to absorption of the neck. It was essential to obtain close union and firm fixation; unless these conditions obtained sooner or later there would be permanent non-union.

For many years Whitman's method of fixing body and leg in correct position in plaster held first place. This method, however, was long and tedious, and a strain on old and feeble patients. At the end of three or four months, when the plaster was taken off, if there was non-union it was then extremely difficult to restore the patient to a sound condition. Even in the hands of enthusiasts this method had never yielded more than 50 per cent. of successes.

Others had used bone pegs, either a square-shaped living graft driven from the great trochanter into the head, which involved great destruction of cancellous tissue, or else a beef bone. During the last six years Smith-Petersen's three-flanged nail had really dominated the situation. The nail, which looked very massive in *x*-ray shadow, was really a very delicate construction, consisting of three metal blades set axially at angles of 120 degrees, so thin that they could be driven in without any preliminary boring, holding the fragments in relation to one another very firmly, in particular allowing no rotation of one fragment upon another.

Smith-Petersen's original operation entailed an incision of considerable size, but Sven-Johansen had suggested a modification by which the nail could be driven in without an open exposure, several Kirschner wire guides being used under *x*-ray control. This was probably now the most popular of all methods for operating on a fractured neck, but it was not so simple as it sounded, and even in the hands of experts was very tedious and occupied between one and two hours. Watson Jones had introduced a stout drill guide, inserted under visual direction, but this necessitated a large exposure with risk of shock and infection, and it had to be remembered that many of these patients were feeble elderly women.

Professor Hey Groves then described a personal modification. He had set himself the problem of putting the Smith-Petersen nail into the head of the femur without the exposure necessary in the Watson Jones and other methods. It seemed to him that it ought to be possible to have an instrument which would guide the drill in the right direction by mechanically calculated means, and he exhibited the simple instrument he had devised to guide the drill into the axis of the neck and head. The practically bloodless operation occupied only from eight to fifteen minutes. It was necessary to ascertain two points: the middle of the head of the femur and the point at the base of the neck where the axis of the neck and of the shaft crossed one another, and these points, ascertained with the help of *x* rays, were marked on the patient's skin. His instrument had three vertical points, two of which were thrust through the skin and the third, which took the drill guide, lay outside the thigh. Only two tenotomy wounds were necessary for the introduction of the instrument. The drill having been thrust into the thigh, and through the neck into the head, the instrument was removed, leaving the drill in position. A small incision was made with the drill as its centre, and then the modified Smith-Petersen nail was hammered in. The procedure was quite a simple one, and not likely to impose too great a strain upon old and feeble patients. To complete his survey there remained the cases of permanent non-union, in which, after a period of three to twelve months, either the head became devitalized or the neck absorbed. There was a choice of three different procedures: (1) Whitman's reconstructive operation, which was rather severe; (2) the bifurcation osteotomy of Lorenz; (3) the cuneiform osteotomy of Schanz. Lorenz's operation was by far the easiest; Schanz's was more complicated, though it did not take much longer.

The Drill Guide Method

Mr. WATSON JONES showed a cinematograph film illustrating his drill guide method. He said that since the introduction of the Smith-Petersen nail the mortality in fractures of the neck of the femur had been greatly reduced and the incidence of bony union increased.

During the last five years he had operated on sixty-four cases. The mortality (6 per cent.) was much lower than by the earlier method, and bony consolidation was secured in 91 per cent., again a great improvement on the results with the Whitman plaster. The difficulty of the Smith-Petersen operation had been advanced as a criticism, and it had also been urged that if the Smith-Petersen failed the results were likely to be worse than the failures with the Whitman plaster. It seemed to him wholly indefensible to say that because a procedure was difficult it should be abandoned. His own particular technique, consisting of the insertion of a stout drill guide under visual direction, was merely one means of ensuring accurate insertion of the nail; but the value of a technique should be assessed, not by the ease or the difficulty of the procedure, but by the success or failure of the results.

Mr. GWYNNE WILLIAMS gave the results of treatment of thirty-one cases of unimpacted intracapsular fractures of the neck by the Smith-Petersen open operation. The average age was 65. Six of the patients died, two of pulmonary embolism on the tenth day, one a year after operation from the results of infection by *B. welchii*, one of septicaemia fourteen days after re-driving a nail which had slipped out of the head, one of erysipelas from a sore on the heel, and the last from pyelonephritis following operation. The operation did not involve marked loss of blood, and there had been no shock. No splinting was required, and the patient could sit up in a chair three weeks after operation. It was well not to allow weight-bearing until three months had elapsed. Of the twenty-five who were alive, three cases had failed to unite. All the others had united, and this might be contrasted with thirty cases treated by Whitman's manipulation and plaster, in which only seven showed union. He concluded that the major problem of non-union of these fractures had been solved by the Smith-Petersen pin, and there remained for elucidation the method of placing it, whether open operation or such a method as Sven-Johansen's.

Methods of Approach

Mr. ERIC LLOYD said that for a year he had been using a director for insertion of the Smith-Petersen nail. This was an instrument enabling the surgeon to insert the nail through a small incision over the great trochanter without the use of wires and without exposure of the fractured neck of the femur. It was an instrument of precision, and its setting in each case was determined by the *x*-ray photograph in two planes during operation. Smith-Petersen originally performed his operation through a large incision, but he now used a lateral incision and worked under *x*-ray control. The speaker had employed Kirschner wires for some months, but these he found disadvantageous. Then he worked out this aiming device of mathematical precision, and found it of considerable value. The method required a developing room adjacent to the theatre or a portable dark-room in the theatre itself, and a radiographic staff trained to the theatre and able to take good lateral pictures of the hip. The statistics were necessarily incomplete, because at least a year should elapse before any assessment of the result. But since September, 1934, he had operated on thirty-one patients by lateral approach—in ten of these by methods using wires, and in twenty-one with the aid of the director in its present form. Two of the patients died from quite extraneous causes, and two others died from causes connected with the operation. The average age of all the patients was 64, and ten were over 70. The method needed patience, but he believed it offered greater precision than any other.

Mr. HARRY PLATT thought it only fair to make one statement about Whitman's method—namely, that it had never been tried in any clinic with the advantages of modern *x*-ray control. But he had no doubt that the method of internal fixation (osteosynthesis), with the Smith-Petersen tri-flange nail had entirely revolutionized the treatment, giving a higher percentage of bony union in fractures as a whole, extending the scope of effective treatment in older and more frail individuals, reducing the primary mortality, and affording greater comfort in after-treatment. Choice lay between the intra-articular and extra-articular operation. The former, a modification of the original Smith-Petersen method, could be used safely in the majority of intracapsular fractures. Its disadvantages were that it was partly a blind procedure, a formidable one in aged and frail patients, and the wide reflection of the joint capsule was followed by fibrosis which tended to limit movement. The extra-articular method was more precise, a harmless procedure, applicable to a wider range of patients, and would probably be the method of choice in the future. He pointed out the importance of after-treatment, emphasizing the risks of premature mobilization and weight-bearing.

Professor HEY GROVES said that the accurate pictures and the honest statistics brought forward confirmed the obvious fact that, however skilfully performed, an operation with an incision several inches in length and lasting from half an hour to an hour did mean very serious risk in elderly patients. The problem still remained to think out a procedure which they would themselves advise in the treatment of a dear friend of their own, over 70, and weak and non-resistant.

Recent Research Work

Dr. JOHN BEATTIE then gave a brief address on recent research work at the College laboratories. He mentioned first the work on surgical shock. There were three phases in surgical shock which could be understood by investigating the blood pressure in experimental animals from the moment of onset of shock. The first fall in blood pressure after trauma was due to loss of fluid. The period of recovery might last for thirty minutes, but not very much longer, and then a gradual fall in the pressure was noted, terminating in death. The work done in the laboratories had pointed to the conclusion that the loss of fluid observed during the first phase was not the cause of death, but that the cause of death was due to something happening in the second period, probably associated with impulses passing along the sympathetic nerve. As the blood pressure fell the numbers of these impulses increased. Mr. O'Shaughnessy and Dr. Slome, who had been working on this problem, were convinced that the actual cause of death was associated in some way with the generation of abnormal nerve impulses passing upwards in the central nervous system. That left the actual cause of death still to be determined. It might be that these impulses brought about some change which was irreversible, and in consequence the blood pressure, having started to fall, kept on falling until eventually it reached so low a point that death was inevitable.

Intestinal strangulation had been investigated in the laboratories by Mr. G. C. Knight and Dr. Slome. They had shown that the cause of death in such a condition was due to the formation of a toxin. A toxin was produced from thirty to forty-five minutes after strangulation. This toxin might pass into the lumen of the gut or into the blood vessels, where, owing to the strangulation, it could not get out, and later passed outwards into the peritoneal fluid. In a certain period of strangulation varying from a few hours to as long as twenty-two hours it was possible to obtain the toxin in sufficient quantity to kill the normal animal. There was no doubt that strangulation of the gut did not produce death by a loss of fluid into the gut, but rather by the elaboration of some poison in the gut wall itself.

He next referred to some interesting work by Mr. F. H. Bentley on changes produced in fibrous tissue by epidermic growth *in vitro*. It was shown that during the initial period of epithelialization of a wound in the skin there was a marked turning of the fibroblasts and collagenous filaments at right angles to the surface of the wound; this, however, rapidly disappeared as the basal membrane was formed between the layers of epithelium and the fibrous tissue. The work pointed to the conclusion that the reactions of the fibrous tissue were a specific result of the initial epithelial growth.

Experiments on nerve grafts had also been carried out by Mr. Bentley in association with Miss Margaret Hill. The conclusions were that a nerve graft sufficed to throw a bridge over the breach of nerve and allowed a large

number of axons to reach the distal segment of the nerve ; no differences were found in the time of re-establishment of physiological function as between animals which had had fresh grafts and those which had had degenerated grafts. Finally, the number of new axons which passed in the distal segment was determined by the quantity of fibrous tissue formed at the junction of the nerve with the graft and the quantity developed at the central terminus of the grafted nerve in line with the junction.

Some work on the hypothalamus had been done by Dr. A. S. Kerr, illustrating the hypothalamic control of visceral activity. The conclusion had been reached that the stomach and the bladder areas in the hypothalamus were closely related to one another. He also mentioned work on the surgery of the lung, cardiovascular surgery, and experimental glomerulonephritis. All this work, he said, the visitors would be able to see at close quarters at Downe on the morrow.

The attendance of French surgeons was large, though none of them contributed to the discussion.

PRESENTATION TO LORD MOYNIHAN

On the evening of July 6th a reception was held at the Royal College of Surgeons, on the occasion of a presentation to Lord Moynihan by the subscribers to the *British Journal of Surgery*, in appreciation of his distinguished services to that journal since its foundation in 1913. This opportunity was also taken by the President and Council to welcome the party of members of the Académie de Chirurgie of Paris who were visiting London for the scientific meeting of which an account appears above.

The guests were received by the President, Sir Cuthbert Wallace, and Lady Wallace, in the Museum Hall. The presentation was made in the Lecture Theatre by Mr. Ernest W. Hey Groves, who has been the Editorial Secretary of the *British Journal of Surgery* during the whole period of its existence. Sir Cuthbert Wallace, supported by the vice-presidents (Mr. A. H. Burgess and Sir Charles Gordon-Watson) and other members of the Council, opened the proceedings with a few words of welcome to the large and distinguished audience, and in particular to the French surgeons. Mr. Hey Groves paid an eloquent tribute to Lord Moynihan's great work for the science and practice of surgery, mentioning especially his leadership in the foundation of three things: the Surgical Club which now bears his name, the *British Journal of Surgery*, and the Association of Surgeons of Great Britain and Ireland. The gift handed to Lord Moynihan by Mr. Hey Groves is a silver statuette of a young man standing on a crystal globe and holding above his head an open book of gold bearing the words "The British Journal of Surgery, 1913–1935." The base of the figure bears the inscription: "Lord Moynihan of Leeds: British Journal of Surgery: 1913 to 1936. Omar Ramsden me fecit." Sir D'Arcy Power then, on behalf of the subscribers, handed a cheque for 1,000 guineas to Lord Moynihan, who presented it to the President of the College to be expended on research work in surgery. Lord Moynihan expressed his thanks in a felicitous speech, recalling briefly some of the salient points in the progress of surgical science during his time, and his own efforts to break down barriers between centres of surgery and between individual surgeons at home and abroad. In a reference to the change of spirit that had gradually come over the College since he first joined its Council, Lord Moynihan mentioned the munificent gifts of Sir Buckston Browne, which had made possible a new orientation towards research.

Museum Room I, by clearance of its floor and the covering up of its lower walls, had been converted into a hall for dancing and the exhibition of portraits and other paintings. In the Conservator's Room there was a display of models and sculpture ; and in the Lecture Theatre, after the presentation, talking films were exhibited. Visitors also had an opportunity of seeing the portrait by Richard Jack of Lord Moynihan painted when he became President of the College, and beneath this the new silver tablet commemorating Lord Moynihan's services to the *British Journal of Surgery* and to surgical research.

Reports of Societies

LATE SEQUELS OF WAR STRESS

The Ex-Services Welfare Society convened a conference of its psychological specialists and other psychiatrists in London on July 3rd to discuss "Some Sequels of War Stress." Dr. E. MAPOTHER, the society's chief consultant, was in the chair. The conference was followed by a luncheon, over which Lieut.-Colonel C. D. UNIACKE, chairman of the society's committee, presided, and after one or two congratulatory speeches a visit was paid to the society's industrial colony at Leatherhead.

Dr. MAPOTHER, in opening the conference, suggested that the discussion should be confined to three types of case: hysteria, morbid grievances and paranoid conditions, and delinquency. Under the heading of hysteria he would include any representation or exaggeration of disabilities with a view to some advantage, though not with the fully conscious motive of the malingerer. He asked the conference to consider how far the occurrence of these conditions in war neurotics was due to a pre-war fault in the personality. In so far as they were due to military service, did any physical factors play a part in the origin and maintenance of the psychological stress? How far, by selection and training of recruits, was it possible to eliminate men liable to such breakdown, or to immunize them against the stress and temptations to which they would be exposed?

Hysteria

Dr. F. J. NATTRASS (Newcastle) said that in his experience the grosser manifestations of hysteria, such as blindness, deafness, paralysis, and fits, had not persisted for any length of time during the post-war period. In 1917 in No. 62 Casualty Clearing Station 500 men were admitted with hysterical aphonia in the course of six months; practically all of them were cured by physical methods, but a few were left with a hysterical stammer. The vast majority of hysterical patients now presented only an anxiety state, and in this respect he could discover no sign that in the passage of the years they were getting better able to meet the competitive conditions of civil life. But the work at the society's industrial colony had shown that many of them could lead useful lives under protected conditions.

Dr. RUPERT COLLINS (Cheltenham) said that the cases of hysteria seen during the war had a more or less definite disability, such as hysterical aphonia and the paralysis of one or more limbs. Such cases yielded to suggestion treatment very quickly. He recalled one persistent case of hysterical aphonia which refused to yield to psychiatric treatment, but yielded absolutely to treatment by a throat specialist—owing, he believed, to nothing more than the fact that the man knew he was at last being seen by a laryngologist and no longer by a psychiatrist. The cases seen now were due to excessive emotionalism ; they were patients who reacted unduly to any emotional stress to which they were exposed. Some of them might be maintained in their condition by the misdirected sympathy of well-intentioned individuals and societies. The speaker mentioned his experiences during the war in dealing with soldiers who were described as temperamentally unfit for the front line. They included many men with the musical or artistic temperament. In the next war there ought to be a better system for weeding out people beforehand who were genuinely unfitted for such experience, and some means of learning the pre-war history would be helpful.

Morbid Grievances

Dr. W. R. D. FAIRBAIRN (Edinburgh) said that in general the most prominent symptom of war neurosis was anxiety. Even when the clinical picture was not dominated by overt anxiety careful investigation invariably revealed the presence of anxiety concealed under other symptoms. A period of overt anxiety commonly preceded the onset of war neurosis. In what respect did neurotic anxiety in the

soldier differ from normal anxiety? It enabled the soldier to leave the war zone without incurring wounds on the one hand or court-martial on the other. The persistence of war neurosis after the dangers of war were past suggested that the neurosis was serving some purpose deeper than self-preservation. These were people whose self-love outweighed the valuation of others implicit in group loyalties. The war neurotic had retained childish characteristics, and demanded support from the community or other available institutions in the same way as the child demanded it from his parents. Any failure in this respect on the part of the community promoted anxiety, and owing to the excessive narcissism of the war neurotic there was no limit to his demands. Another characteristic of narcissism was intolerance of frustration, easily observed in the young child and also in the adult who had failed to advance adequately beyond the narcissistic phase. In some cases the further psychological mechanism of projection was brought into play—a psychological process whereby forces operating in the patient's own mind were attributed to the external world. This was best exemplified in delusional insanity. In many cases of this kind morbid grievances developed to such an extent as to constitute a serious problem.

Wing Commander H. L. BURTON (Central Medical Establishment of the Royal Air Force) said that in his Service at present he did not think there were many cases of morbid grievance. Where such grievances existed they were connected not actually with the strain of service, but with the question of compensation (the commonest factor) or supposedly inadequate treatment; or again, there were the cases of people who, owing to war service, lost their civil position and failed to rehabilitate themselves. In these, broadly speaking, there was evidence of quite early development of undifferentiated grievances, such as ideas of ill usage, which induced chronic discontent. Most of them also showed a marked sense of inferiority. All sorts of ailments which had nothing at all to do with their service were regarded by such men as attributable to military experience and therefore matters for compensation. That attitude was encouraged during the war by well-meaning people who had not the medical knowledge to judge whether the case had been dealt with equitably or otherwise. In the Royal Air Force so far as pilots were concerned an attempt was made to eliminate those who would be likely to break down in war by assessing their personality as well as their physical fitness, and, in peace time at all events, not many breakdowns were encountered, notwithstanding the nature of the duties these men were called upon to perform.

Dr. H. P. FOULERTON (governor, Broadmoor State Asylum) said that the subnormal delinquent was a type which one would expect to emerge into notice under war stress. Cases of this kind which occurred in the war were now so well on in years that the causative factors in adolescence could not be ascertained.

Present Experience in the Services

Colonel J. HEATLY-SPENCER (consulting physician to the British Army) confined his remarks to anxiety neurosis. Few of "other ranks" who had served in the war were still in the Army, but among present N.C.O.s who saw war service the condition was practically unknown. As regards prophylaxis he did not think a gloomy view of the future need be taken. Functional nerve conditions during the last war amounted to only 2 per cent. of the medical casualties—a total of 21,000 or 22,000 cases altogether, a very small incidence of nervous breakdown when the enormous number of men mobilized was considered. About the same percentage must be expected in the next war, particularly if it entailed rapid drafting into the Army of recruits from the civil population without opportunity for long training. In examination of recruits the only real standard was physical fitness, but that was a pretty good guide to a man's mental make-up.

Surgeon Captain DANSON (Royal Naval Hospital, Chatham) pointed out that the Navy got its recruits at an earlier age than the Army or the Air Force, and although he agreed that in the actual recruiting nothing in the way of prophylaxis was possible, still, in the training schools a good many of those not likely to become good sailors owing to some latent defect of personality were weeded out. Often no failure revealed itself until the lad was just about to be sent abroad for a long season. It might be taken as axiomatic that there were no psychoses in the Service which were not present in civil life, but the tempo of service was rather faster than that of civil life, and so the man broke down, as he would not have done had he remained a grocer's assistant. He was thinking particularly in this connexion of cases of schizophrenia. With regard to delinquency, his experience of such cases had been that they were mostly of post-encephalitic origin. In the Navy there was not very much hysteria. Soldiers were far more prone to this manifestation.

Dr. GEORGE GORDON (Institute for Scientific Treatment of Delinquency) said that the sequels of war stress were now being seen, not in the men who served in the war, but in the next generation. It was quite easy to trace in many young delinquents the effect of an absent father or elder brother in their early childhood, or the emotional state of the mother and the lack of discipline in the home.

German War Experience

Dr. GUTTMAN of Maudsley Hospital, who served in the German Army during the war, said that in dealing with these disabilities a less zigzag course had been taken in this country than in Germany. During the early years of the war the views of the old German school of Oppenheim prevailed, that the sequelae of shell-shock were of an organic character, but in 1916, after a meeting of German Army neurologists, opinion changed completely round to favour a psychogenic origin for all these conditions. It took some time for such theories to penetrate among the rank and file of practitioners, but when they did so it came about that every sort of condition, in many of which there was undoubtedly an organic element, was ascribed to hysteria or malingering. The symptomatology of neuroses curiously differed in different parts of Germany. In the west, where there was a different cultural level from the east, he saw practically no gross hysterical symptoms, but working later on in the east of Germany he encountered many such cases—aphonia, stammer, and so on. Was it true that only psychopathic personalities went down with a neurosis? Some German writers insisted that in the ordinary population 10 per cent. ought to be called psychopaths. On examining the cases of war neurosis in the post-war period there was evidence of a surprising incidence of feeble-mindedness. In one district of Munich all cases of long-standing war neurosis of the indefinite kind with grievances were examined from the point of view of possible history of delinquency, and a very close connexion was found between the duration of war service on the one hand and the incidence of delinquency on the other. A surprising number of people who had served in the war for only short periods were found to be delinquent in their pre-war history, but the curious fact was brought out that some of these persons did conspicuously well for a time in the Army. They acted, no doubt, under the stimulus of fear, which earned them a reputation for attention and alertness. Only after a time did their psychopathic character make itself felt. He recalled one man who served marvellously during the first two years of war, earning all the German decorations for courage, and then he broke down and was discharged. He was a man against whom before the war there was a long record of convictions for petty theft, begging, and sexual offences. Therefore if neurotics were excluded from Army service the Army might be depriving itself of some excellent, if short-lived, material. He agreed that the only way of excluding the neurotic was by physical tests, especially those bearing on the parasympathetic system. Hysterical symptoms could be successfully treated, but only as symptoms. He thought the range of success of the various forms of treatment was about the same in Germany as in this country. Some fifty old cases of morbid grievances diagnosed by distinguished German psychiatrists were followed up fifteen years later, and 80 per cent. of them were found to have recovered as soon as the legal quarrel or whatever the occasion of trouble had been was settled.

The Abnormal Personality

In the course of further discussion Dr. D. H. PAUL (Ministry of Pensions Hospital, Cosham) said that he had been struck many times by the admission of patients with various nervous symptoms which had cleared up within two or three days of coming into the sheltered conditions of hospital life. Major J. BENNETT was pessimistic about the possibility of eliminating the hysteric at the time of enlistment. Hysterics often got on very well during their first six months at the depot, and it was only after a year or two, when they were warned to go abroad, that an emotional crisis arose. Dr. S. EDGAR MARTIN believed that some special tests for the exclusion of the abnormal personality from the submarine service had been very successful. Dr. T. P. LINEHAN had found considerable resolution of difficulties amongst post-war neurotics once the question of pension was settled on a permanent basis. Dr. C. DAVIES-JONES (Newport, Isle of Wight) trusted that in the next war no specious promises would be made to recruits such as figured on the recruiting posters of the last war and were misinterpreted by many. Service for one's country could not be based on the principle of reward.

Dr. MAPOTHER, in summing up the conference, said that the figure of 2 per cent. functional nerve cases out of the total medical casualties was a conservative estimate. He thought it would have to be multiplied by two or three if the cases disguised under other diagnoses were included. There was very general agreement as to a predisposing personality in all these conditions, whether of hysteri-, morbid grievances, or delinquency. It was very important to eliminate such cases during training, or at any rate to discourage that form of reaction, because undoubtedly the incidence of hysterical symptoms depended largely upon the morale of the unit, and one breakdown would be followed by an epidemic. His own experience was that the grosser forms of hysteria were almost a thing of the past, but hysterical exaggeration, by which he meant over-emphasis of a genuine anxiety, was not. Just after the war there was a dangerous tendency to make all sorts of criminal or vicious behaviour referable to a man's war service. While that was much exaggerated, he had seen a few cases in which after head injury or neurosis a man developed vices such as drink or sexual promiscuity. Whether it was due to a latent tendency could not be said, but certainly it had not been overt.

BOOMERANG LEGS AND YAWS

The twenty-ninth annual general meeting of the Royal Society of Tropical Medicine and Hygiene was held on June 18th, with the president, Sir ARTHUR BAGSHAWE, in the chair. Dr. CECIL J. HACKETT read a paper on boomerang legs and yaws in Australian aborigines.

Dr. Hackett pointed out that the major part of the work on which the paper was based was carried out in the Northern Territory of Australia in 1934, with the assistance of a grant from the Sheridan Research Fund of the University of Adelaide. The deformity of boomerang legs consisted of a forward bowing of the lower limb below the knee, with or without an increase in the antero-posterior diameter of the tibia. This was demonstrated by a coloured cast, still photographs, and a short film of an extreme case. From the study of fifty cases at Alice Springs it was possible to outline the course of the disease. It appeared that in early childhood the individual contracted a disease known to the local tribe as *irkintja*, which is a synonym for yaws. The resulting scars may be found throughout life. After a quiescent period of a few years, which terminated with the onset of "rheumaticky" pains in the shins, the legs became bent. There was probably no increase in the deformity after the epiphyses had fused. Further observations in the northern districts of the territory showed that the association of boomerang legs, the scars, the history of a previous attack of yaws, and positive Wassermann and Kahn reactions in the sera were statistically significant. Thus it was concluded that the boomerang legs of the Australian aborigines were identical with the sabre tibiae of yaws which are reported from many tropical countries. It was emphasized that syphilis was unknown among aborigines in this area, and that most of the early descriptions of that disease or of "venereal disease" among natives in the southern parts of Australia, after cases of gonorrhoea and granuloma inguinale had been excluded, were probably misdiagnoses of yaws. At the present time yaws and boomerang legs were found in all groups of natives living at all after their own fashion. In museum collections specimens of boomerang tibiae were found from the eastern half of the continent. Thus it might be concluded that boomerang legs and yaws were of coequal distribution, and that at the time of the first European settlements these two conditions were present among the aborigines all over Australia.

Course of Bony Changes

From the radiographs of the Alice Springs series the course of the bony changes could be followed. The initial lesion, as work in Manila had indicated, consisted of multiple small rarefied areas in the cortex and medulla. During this stage the bending of the bone took place. As these lesions gave place to a less acute stage the rarefaction resolved, and the cortex became greatly thickened and encroached upon the medullary cavity. There were further changes of absorption of the thickened cortex and its conversion into cancellous tissue from the medullary aspect. The interpretation of the radiographical findings was based on the examination of museum specimens. If there had not been any increase in the antero-posterior diameter of the bone and there were no surface changes, an adult boomerang tibia would appear normal except that it was bent. This was noted by early writers, who suggested that the bending might be a racial characteristic. The factors responsible for the shape of the deformity were mainly body weight and muscular action. It was pointed out that the radiographical and morbid anatomical changes did not resemble any syphilitic condition, as there was notable absence of any extensive periosteal deposit.

Among the radiographs of the Alice Springs series were found three types of lesions which did not fall into the course of the development of boomerang legs. Specimens showing similar changes were found in various museums. These three lesions might be characterized as: (1) multiple necrotic foci, 5 to 10 mm. in diameter, in the long bones, associated with expansion of the bone and some periosteal reaction; (2) periosteal nodes with or without necrosis; and (3) generalized periosteal deposits. The first type of lesion was not like any caused by syphilis, although the last type did resemble syphilitic periostitis. There were, however, indications that all were probably due to the same cause, which, it is suggested, until further work is carried out, is yaws. Certain pathological changes in skulls were also described which may be due to yaws. A demonstration of photographs, bones, radiographs, and maps covered the points dealt with in the paper.

Discussion

Professor H. A. HARRIS, in opening the discussion, said that Dr. Hackett's lecture was somewhat disturbing. The deformity, so well shown in the film of the woman walking, did not fit in with any of the static deformities seen in orthopaedic hospitals. Furthermore the bending of the tibia was so rectilinear, so clear-cut and free from any localized "knobbing," irregularity, or bending in two planes as to be recognized at once as distinct from anything we have had in this country. He suggested that in boomerang leg there was not a calcium but a phosphorus shortage in the bones, and that the condition arose as a result of a chronic infection like yaws engrafted on a phosphorus deficiency.

Dr. MATHER CORDINER agreed that the radiographs produced of boomerang leg were different from anything he had previously encountered. In the congenital syphilitic lesion the chief characteristic was a periosteal reaction with very little atrophy and no bending; in boomerang leg bending was the predominant feature. In adults there was osteitis deformans to be considered, but

in boomerang leg there was a complete absence of the marked trabeculation characteristic of the former disease. Occasionally later in life syphilis might produce bending of the tibia, but under such circumstances one usually found it confined or chiefly confined to one bone. Professor WARRINGTON YORKE said it was curious that the same infection in different parts of the world seemed to produce at different times different lesions. Dr. H. S. STANNUS said Dr. Hackett had suggested that yaws was present all over Australia in parts which were not the "geographical Tropics" in between the Tropics of Cancer and Capricorn. If, however, a map of the isotherms of maximum and minimum temperatures were prepared the distribution of yaws in Australia would correspond in temperature with that of other warm countries where this disease was found. That food deficiency, intercurrent infections, and endocrine disturbances play a marked part in syphilis has been shown in French West Africa: the same was probably true of yaws. Dr. CARMICHAEL LOW said that though boomerang legs must be related to yaws there must be another factor which makes the bones soft and permits bending. Clinically he failed to see how anyone could call syphilis and yaws the same disease. Dr. C. C. CHESTERMAN stated that during the past three years he had treated 22,000 cases of yaws. Boomerang leg was similar to what was called "matchet leg" in the Congo, but he had never seen such marked bowing and thinning as Dr. Hackett had demonstrated. Natives in the Congo were obviously better fed than the Australian aborigines. In yaws he had not observed scars on the skin except after superficial tertiary skin ulcers.

Dr. HACKETT, in reply, agreed that there might be an extra factor such as deficiency in the aetiology of boomerang leg; and to demonstrate this active early cases should be studied radiologically and biochemically, especially in regard to calcium, phosphorus, and phosphatase.

MENTAL HYGIENE AND PREVENTIVE MEDICINE

The annual meeting of the National Council for Mental Hygiene on June 30th was mainly occupied with an address by Dr. H. CRICHTON-MILLER on the bearing of mental hygiene upon preventive medicine. Mental hygiene, he said, was itself an aspect of preventive medicine, and, strangely enough, it was one in which the community in general showed very little interest. In his view this lack of interest was attributable to a number of mistaken attitudes adopted by the lay public towards morbid mental phenomena. He enumerated several of these. For one thing mental disorder of any kind was still regarded as a mysterious affliction, inescapable and incurable, and therefore unpreventable. It was also widely supposed that nervous disorders, so-called, bore no relation to mental trouble. There was even a matrimonial premium on this misleading distinction between nervous and mental disorders.

If an enlightened community were to press its experts for guidance on the subject of prevention clearly the first line to be taken would be genetics. It was possible that the views of posterity on the chances of morbid heritage might be modified in the light of further investigations, but the accumulation of present knowledge left little excuse for ignorance. It was astonishing that even in the medical profession what was known about inheritance in mental disorder should be so little thought of and so casually treated and set aside. But the genetic problem could not be solved by a reference to textbooks. It required additional data. No real progress could be made in genetics until it was made compulsory to keep a pedigree. If civilized man cared so little for the future welfare of his species that he would not even trouble to inform himself of genetic principles, still less of genetic data, then the civilization he represented was doomed. Was it possible that democracy must perish because educated men, when they had freedom in matters of procreation, would not take the trouble to accept a eugenic discipline for themselves?

The second line of prevention which experts might submit referred to those congenital diseases which were not hereditary. All of them had seen a large number of children whose neuropathic tendencies were referred to the fact that just prior to their birth their mothers were exposed to air raids. Schoolmasters were now getting rid of this incubus, but these people were being encountered in young adult life. The hygiene of the expectant mother was an important contribution to the mental health of the offspring.

Physical Health

In the third place, if the mental health of posterity was to be ensured children must not only be bred but reared in physical health. The community was becoming very gradually health-conscious, at least in a middle stratum. Above that middle layer there was a considerable stratum that was health-fussy, and below it another that was health-careless. The difficulty was that the popular imagination was deplorably weak in relation to mental hygiene. For years the tag had been quoted *mens sana in corpore sano*, but not even the medical profession had understood that such things as septic tonsils and adenoids might lead to something more than ear and throat trouble. A common cause of mental disorder was chronic sinusitis frequently starting in septic tonsils and adenoids. No one could move among crowds without being impressed by "the dreadful proportion of mouth-breathers," and the "mouth-breather" could never be mentally 100 per cent. Some doctors recognized that apical abscesses could be a contributory factor in both psychoneurotic and mental breakdown, but dentists for the most part still worked as if teeth were only for decorative and masticatory purposes, and the systemic effects of bad teeth were disregarded. Extraction of such teeth was not merely a fad on the part of the medical profession, but might be effective in maintaining the mental health of the patient. Although it could not be said that if the body were kept fit the mind would be fit, it could be said that there were many directions in which physical deterioration would produce mental deterioration.

With regard to exogenous poisons there was one glimmer of hope, because the amount of alcohol consumed had been greatly reduced, and the poison of syphilis was also on the decline. Again, the community was becoming health-conscious concerning food poisoning in a negative sense. It was awake to the danger of vitamin deficiency.

Vicious Circle of Frustration

But even when a man's body remained healthy his mind might fail in health. Modern man was suffering on a vast scale from certain neuroses. Whereas primitive man satisfied his impulses in the most complete way, as civilization had gone on these satisfactions had become more partial, frustration more common, and, finally, civilized man, particularly in relation to the standard of monogamy which he found it so hard to maintain, was struggling with partial biological satisfactions and an infinity of choice, and the unity and integration of his purpose in life was continually being challenged. Thus man had managed to establish a vicious circle. The more he found it necessary to abstain and refrain from impulsive satisfaction, the more he tended to invent artificial and mechanical substitutes of a partial character; and the more he invented such substitutes or such infinite variety of "dope," which now almost constituted civilization, the more he brought himself to a state of dithering uncertainty.

In all this fantastic artificiality, Dr. Crichton-Miller went on, there was a demand for mental health beyond anything which previous generations had known. What had education to say to this greater demand upon character and mentality? Instead of preparing men for this distracting artificial life education tended increasingly to fill them with technical information and to leave their characters largely to look after themselves. It was a sense of social responsibility alone which was going to save civilized man from himself. The "dictator" countries were going to be countries, he believed, in which the insanity rate would fall, simply because men were delivered from these conflicts—this embarrassment of choice. The causes of mental breakdown would be

reduced, and the people in those countries would be able to point to other countries which still called themselves free as gradually deteriorating—at least unless democratic modern man could learn quickly enough the lesson of social responsibility.

Toxic Robots

Finally, man had to recognize that in living under these artificial conditions one of the most important factors in human life was being steadily shelved—namely, that of parenthood. For most people a stake in the future was an essential element in mental life, and partly because of the artificiality of life and partly for other reasons, that stake in the future was denied to a large part of the population and refused by a not inconsiderable remainder. If a free country could not evaluate at its true worth the great fact of parenthood there was bound to be trouble on the mental side. Dr. Crichton-Miller concluded with a striking picture of this "toxic robot" which was modern man, demanding health not only of body but of mind, in the face of his own racial irresponsibility, of the deleterious influences of urban life, of economic barriers to parenthood that had practically destroyed the family community, and neither credulous enough to find faith in authority nor wise enough to achieve equanimity in a philosophic religion.

NEUROSIS IN THE CHILD

A meeting of the Institute of Child Psychology was held on July 2nd, with Professor H. R. HAMLEY in the chair.

Dr. CHARLOTTE BÜHLER (Vienna) opened a discussion on the meaning of neurosis in the child. Mutual understanding and co-operation, she said, were to-day essential between medicine, education, and psychology. In the old days there had been a great variety of neuroses, and even Freud had done nothing to reduce the number. Adler had been the first to speak of "the neurosis": a definite attitude to life, a fixed unconscious reaction which avoided the real aim and substituted some other tendency. Dr. Bühler claimed that the test methods she had worked out would distinguish quite certainly between the behaviour of the neurotic child and other kinds of unusual behaviour due to critical periods in the maturation process—slow maturation, feeble-mindedness, primary deficiencies, and neglect. Taking obstinacy as an example, she pointed out that it had been said that 85 per cent. of all children passed through a period of obstinacy, but in normal children this should not last beyond the fourth year, and was characterized by a direct refusal to do what was asked: "No, I won't." The neurotic child would not even say "No," but turned away, avoided all contact, and when asked to do something was apt deliberately to do something else. He did things to annoy, watching how people reacted, and treated objects badly. His behaviour was often prolonged beyond the fourth year and was rather stereotyped. He markedly avoided any kind of imitation. There were various kinds of primary deficiency—for example, an intelligent child might be a very slow mover and might become very annoyed at his inability to do things which he fully understood. He would, however, if normal, show no negativism or unwillingness to make contact. The tests were of crucial value for treatment, because the child who gave a neurotic reaction belonged to the domain of the psychologist, but the other type of child should be treated by educational adjustment.

Dr. MARGARET LOWENFELD tentatively defined neurosis as a condition in which the predominant factor was found to arise from the emotional nature. She emphasized the falsity of the attitude which divided unsuccessful children into the sick, dealt with by the doctor; the criminal or delinquent, dealt with by the law; the educational failure, belonging to the teacher; and the psychoneurotic. The barriers between these groups must be broken down. Everyone who knew children knew that any one child might refuse to eat one week, steal sweats the next week, get into difficulties over lessons the third, and wet his bed the fourth. The neurotic child was not a special type and could not be recognized at sight, as some paediatricians seemed to think. Educationists were apt to regard as abnormal any child who did not fit into the peculiarities of the school he was at. The problem of neurosis in children differed from that in adults in that the adult neurotic made complaints and sought assistance, while the neurotic child could only see a physician if he were brought to one. The reasons for which he was brought were cultural, and varied according to the social stratum and racial background. Moreover, adults were fixed and difficult to change; a child was a thing in movement, a becoming.

Dr. D. W. WINNICOTT said that the normal child could not be distinguished from the neurotic child, and he preferred to use the vague term "finding life difficult." Adults were incapable of recapturing the intensity of infantile and child feeling; normality depended on forgetting it. Adults expected babies to be like the dolls of their own childhood, and were always surprised and humiliated at the individuality of the child and the fact that the environment provided by the adult could only indirectly affect the child by modifying its inner life. The psychological activities of the young human included a constant testing and retesting of the inner (fantasy) world and outer world. There was an urge to put right in external reality what became harmed in fantasy. Every normal baby experienced a wide range of emotions, and was very much at their mercy. Abnormality appeared when the symptoms of its emotional life produced an unfriendly environment or caused bodily harm; or if play were inhibited or the child became unable to deal with its difficulties by manifesting neurotic symptoms. He ought to be able to relieve himself by sulking, rage, restlessness, bed-wetting, digestive disturbances, or minor illnesses. Each method worked in its own way, but only in a popular sense could the term "neurotic" be applied to it. The popular use of the word "neurosis" expressed the fallacy that neurotic symptoms were in themselves abnormal. The term had a place to describe tendencies and symptoms that had no physical basis, but the psychologist could only use it if he made it clear that normal children employed neurotic symptoms in their development. Dr. ETHEL DUKES thought that all three papers were fundamentally agreed on the definition of neurosis, and expressed her appreciation of the diagnostic methods introduced by Dr. Bühler.

Professor MILLAIS CULPIN expressed his detestation of the word "neurosis," the currency of which marked one of the dark ages in medicine. Still worse was the word "neurotic," a mixture of false metaphysics, pseudo-psychology, and moral condemnation. He preferred the term "benign psychosis," and thought it was not very different in children and adults. The analytical examination of the adult gave great knowledge of what went on in the mind of the child. The key to handling the child from his earliest days was to "keep off his back" as much as possible and to avoid emotional emphasis. Dr. DORIS ODLUM suggested the word "dysthymia" to make it clear that what was meant was an emotional disharmony and to avoid a term which confused everybody.

BIRTH INJURIES

At the last meeting of the Edinburgh Obstetrical Society, with the President, Dr. DOUGLAS MILLER, in the chair, Mr. W. A. COCHRANE read a paper on birth injuries of the child.

On this subject, Mr. Cochrane said, the obstetrician, the orthopaedic surgeon, and the neurologist found common ground, and by their united effort much might be done to elucidate the problems relating to birth injuries. He confined his remarks to their mechanism, prognosis, and early treatment.

Congenital Torticollis

It was recognized that there was an intimate relationship between the presence of a sterno-mastoid tumour and the subsequent development of wryneck, and also that both these conditions had some connexion with long

and difficult labours. Investigation of thirty cases of torticollis by Middleton showed that twenty-five gave a definite history of sterno-mastoid tumour shortly after birth. The fibrosis in the muscle resulted from venous obstruction, oedema being one of the essential factors in producing the fibrosis. Brooks of Chicago, in an interesting series of experiments, established the fact that ligature of the vein from a muscle produced massive fibrous tissue replacement of the muscle. It is thought that such venous obstruction occurred if the head were placed in a position of extreme rotation, the tense muscle being capable of compressing the veins as they passed beneath it. This was the condition of the experimental muscle after venous ligation. It was claimed, therefore, that most cases of torticollis resulted from fibrosis in the sterno-mastoid muscle consequent upon the development and absorption of the so-called sterno-mastoid tumour of infancy, and that the sterno-mastoid tumour resulted from temporary acute venous obstruction in the muscle, this obstruction taking place during labour.

Obstetrical Paralysis

The aetiology of this condition was discussed, and it was claimed that in birth palsy an injury of the brachial plexus occurred. The majority of cases were in infants born after a difficult or prolonged labour. In the available statistics, particularly those of Sever of Boston, the vertex presentations outnumbered the breech presentations, boys and girls were equally affected, and the right arm more frequently than the left. The mechanism of injury was the stretching of the plexus when the head was forcibly separated from the shoulder, but it was pointed out that actual tearing was most easily produced when the head was also rotated away from the arm on which traction was made, as in failure of the shoulder to rotate in a vertex presentation. In the management of a breech case the same dangerous combination of rotation and traction could occur in the delivery of the head. With the shoulder held and the head carried to one side, the clavicle being intact, considerable force was necessary to injure the plexus. The fractured clavicle, by allowing the weight of the shoulder to drag upon the plexus, predisposed to greater injury from traction. The gravity of the lesion could be estimated only after a period of observation. In the whole-arm type complete and perfect recovery did not take place, as the rupture was often close to the intervertebral foramina ; in the upper-arm type some return of voluntary power usually took place ; in the lower-arm palsy the prognosis was unfavourable. Postural treatment, treatment in splints, massage, and re-education were discussed, and also the operative treatment by division of the subscapularis tendon.

Injuries of the Limbs

In the experience of Truesdell, birth fractures were always complete, and the presence of callus might be the first sign of fracture of the clavicle. In the case of a fractured humerus, a small, straight Thomas's splint might be used as advised by Gibberd, using a thin elastic band as extension. By the second week after fracture it was possible to correct the remaining deformity by careful manipulation. Birth fractures of the humerus had been uniformly associated with some degree of radial nerve paralysis. This had never been observed to be permanent. It was important to note that birth fracture of the humerus with wrist-drop might be associated with Erb's paralysis, and it was important that the latter should not be overlooked.

In fracture of the femur the upper fragment was abducted, flexed, and externally rotated, and the lower fragment must be brought into line with it by bandaging the limb to the trunk. The injured limb was best brought over as far as possible towards the opposite side of the body. There was not the same tendency to remodelling of malunion in this fracture as compared with fracture of the humerus.

Spastic Paralysis

Cerebral paralysis in children may result from causes which were ante-natal, natal, or post-natal. It was doubtful whether the natal causes produced the majority of cases of spastic paralysis which were dealt with in practice. There was a considerable body of opinion that the congenital diplegias which constituted by far the largest group of infantile spastic palsies were not to be attributed to meningeal haemorrhage at birth, but were the result of various pathological processes of intrauterine origin. A variety of spastic paralysis which required special mention was that due to injury of the spinal cord itself. Ford, Crothers, and Putnam had drawn attention to this form of trauma, and thought it required greater recognition than seemed to be at present the case. The injury occurred during traction in delivery. The prognosis from orthopaedic care in cases of spastic paralysis where there was not much mental enfeeblement or athetosis was fairly good.

The meeting of the Liverpool Society of Anaesthetists on June 20th, held at the Royal Southern Hospital, Liverpool, took the form of a demonstration of cyclopropane anaesthesia, administered by Dr. Stanley Rowbotham of London. Three abdominal cases were operated upon by Mr. C. A. Wells, and the relaxation produced by the gas was impressively demonstrated. There was a large attendance of anaesthetists and surgeons, and a short discussion followed under the chairmanship of Dr. A. J. O'Leary. Dr. Stanley Rowbotham and Mr. C. A. Wells were made honorary members of the society.

Scotland

Edinburgh University Graduation

At the summer graduation for the Faculties of Divinity, Arts, and Science at Edinburgh University on July 3rd fifteen honorary graduands and nearly 400 students received degrees. Among the former was Colonel the Hon. Murray Maclaren, M.D.Ed., who received the degree of LL.D. Colonel Maclaren is a Scottish Canadian who studied medicine at Edinburgh and afterwards returned to Canada to take up surgery. Throughout the war he remained on active service with the Canadian Army in France in command of various hospitals ; at one time he was in charge of the medical services for the whole of the Dominion Forces. He devoted special attention to the improvement of artificial surgical appliances for disabled soldiers. After 1921 he took a prominent share in Dominion politics, having become Minister of Pensions and National Health. In 1935 he was appointed Lieutenant-Governor of his native province of New Brunswick. Four medical candidates received the degree of Ph.D. for theses dealing with medical subjects.

Degrees in Dental Surgery at St. Andrews

At a meeting of the General Council of St. Andrews University on June 27th a draft ordinance for the institution of degrees in dental surgery was approved. St. Andrews is the first Scottish university to institute such degrees. The ordinance suggests a diploma in dental surgery which would confer licentiateship, and degrees of Bachelor of Dental Surgery (B.D.S.) and Master of Dental Surgery (M.D.S.). Mr. James Allison, Dundee, said that University College, Dundee, had conducted a successful dental school, and it was now proposed that the course of study should be in two stages: (1) a stage for those seeking merely the diploma of licentiate, and (2) a stage for those seeking the degree of Bachelor in Dental Surgery. The degree of Master would involve additional work, both theoretical and practical. Those who gained the degrees would be persons well qualified as specialists in their profession. Professor David Waterston said that the Dental Board had for some time been encouraging the policy of appointing whole-time teachers and generally raising their status. In promoting a degree this university would be following the practice of almost all the provincial universities in England, and the ex-

tended curriculum would attract a larger number of students as time went on. Principal Sir James Irvine said that this was an example of the way in which public effort influenced university activity and policy. Dental education in Dundee had not been begun by the university, but by a number of public-spirited men, who established the Dental Hospital, with which the University Court had later become associated. It was still administered by its own promoters, and the Court was only concerned with it in a teaching capacity. This school had existed for twenty years, and had granted a diploma for ten years. There were now fifty-three students, and the accommodation was taxed to the utmost. The University Court was about to appoint a professor in dental surgery.

Royal (Dick) Veterinary College

At the annual prize distribution of the Royal (Dick) Veterinary College, Edinburgh, on July 1st Professor Sir Thomas Hudson Beare, who presided, said that the college urgently required enlarging as the increase in the number of students had been phenomenal during the last few years. There was also a lack of men trained in veterinary science to undertake advanced research work. As an example of the work that required to be done he mentioned grass sickness, which was at present causing terrible loss to the farmers of Scotland, and which baffled the keenest research workers. It was therefore proposed, he said, to appeal to the public for subscriptions to make up the cost of £40,000 for new buildings, of which the Government had offered to contribute £20,000. In reviewing the work of the past session Principal Bradley said that the college had had a record number of students, and the work of the staff had been practically doubled during the last two or three sessions, so that two new whole-time appointments had been made.

Botanical Centenary in Edinburgh

The centenary of the Botanical Society of Edinburgh was celebrated on July 1st at the Royal Botanic Gardens by delegates from various scientific societies in this country and the United States. An address was delivered by Professor F. O. Bower, who said that the period when the society was founded was prior to the era of evolution and also to that of the idea of protoplasm. It fell within the brief period when the cell unit was emerging towards definite visualization, making modern physiology for the first time possible. Descriptive botany, enriched by large collections of the golden age of travel, was then passing from artificial methods of classification into a gradually moulded natural system. The greatest event of the early years of the society had been heralded by the famous letter of Darwin to Hooker in January, 1844; for anatomy, physiology, and classification had all gained new aspects under the theory of evolution. As the century progressed the scope of morphology widened from a mere study of external form, and the second half of the century had seen botany develop along many divergent branches of specialization. At a centenary lunch held in the university Lord Aberconway said that medicine and botany in the old days had been closely allied, for the herb in root or branch or flower was the great specific against illness. Now that the connexion was less binding the botanic garden had succeeded to a new function with a great school of botany, and a collection of plants rivalled by only one other in the world, at the Botanic Gardens at Kew.

Bruntsfield Hospital, Edinburgh

Speaking at a dinner held in Edinburgh on June 25th to celebrate the fiftieth anniversary of the Bruntsfield Hospital for Women, Dr. Isabel Venters, in a tribute to the memory of Dr. Sophia Jex-Blake, said that the latter, while in practice in Edinburgh fifty years ago, found that when her women patients had to go to hospital they had to be transferred to the care of a medical man. To overcome this she founded a little cottage hospital of five beds at No. 6, Grove Street, with an income of barely £300 a year. This had been transferred in 1899 to what was now the Bruntsfield Hospital with over sixty beds. Dr. Jex-Blake's chief concern had been the medical education of women, but this hospital was her special contribution to Edinburgh. Dr. Frances Huxley (London) said that Dr. Jex-Blake had been the third woman to be admitted to the *Medical Register*. She had had great difficulty in obtaining a medical education, starting in 1869, but she had finally succeeded in getting the early part in Edinburgh. Referring to the hospitals for women in London, Dr. Huxley said that these were shown to be popular for women patients by the long waiting-lists. Young women doctors had an opportunity there of getting post-graduate experience and experience with private patients who came only to women doctors for treatment.

England and Wales

The King's Fund

Among the figures given in the annual report of King Edward's Hospital Fund for London is the sum of £3,193,417, which has been distributed to hospitals by the Fund during the last ten years. None of this, it is pointed out, is distributed without careful investigation of the individual needs of the hospitals. As many as 150 hospitals were visited by the Fund's representatives last year and inquiry made into the many aspects of hospital management. The ordinary distribution for 1935 was £305,000, of which some £127,000 was raised by voluntary contributions. A further sum of £120,000 was distributed as a special Jubilee gift to the hospitals. Part of this was derived from the sale of seats at Jubilee processions, provided by the Office of Works, and the remainder was the accumulated results of careful management throughout the twenty-five years of King George's reign. For the first time a contribution was made to District Nursing Associations towards the cost of the work done by their nurses in looking after out-patients for hospitals and thus relieving the pressure in hospital out-patient departments.

The plans mentioned in the last report for visits to the hospitals by physicists experienced in the best methods of safeguarding the radium and the hospital staffs were duly carried out; the reports were communicated privately to the hospitals concerned. Fresh steps have also been taken to obtain the best service from the Fund's radium. The records showed that at a few of the hospitals there were not enough suitable patients for its maximum employment. It was decided accordingly to withdraw the radium from these hospitals and with part of it to establish a radium pool for their common use. The pool was established in September, 1935, at the Middlesex Hospital. The total amount withdrawn was 985 mg.; 459 mg. were allocated to the pool, and the remainder, after careful consideration of the circumstances and work of several centres, has been allocated to the Middlesex Hospital, which has arranged to make use of it in forming a 2-gram unit in place of the present 1-gram unit.

Queen's Institute of District Nursing

Sir Kingsley Wood, Minister of Health, speaking at the annual meeting of the Queen's Institute of District Nursing, which was held in London on June 24th, said that the institute afforded an outstanding example of the part played by voluntary effort and organization in promoting the health of the country. It was to the district nurses that the working people of the towns and the countryside looked when an accident or illness called for expert nursing in the home. A nursing service was provided for 96 per cent. of the population of England and for 87 per cent. of that of Wales, and while facilities were not evenly distributed or the number of nurses everywhere adequate, it was a notable achievement. A large part of the midwifery service in rural areas was carried out by the district nurses acting as midwives or maternity nurses associated with the Queen's Institute, and excellent results had been achieved. In 1934 the number of maternity cases attended in England and Wales was over 68,000,

and the maternal mortality rate was 2.74 per 1,000 births, as compared with the general mortality rate for England and Wales of 3.93 in 1935. The case for the Midwives Bill now before Parliament was largely based upon the results and experience of the institute, and one of the main provisions of that Bill was designed to secure that all efficient voluntary organizations should have a proper and adequate place in locally co-ordinated schemes.

Public Health, Drainage, and Housing in London

Interesting information regarding the London County Council's public health, drainage, and housing services is contained in volume ii of the annual report of the Council for 1934 (P. S. King and Son, Ltd., price 1s.). In December of that year there were more than 40,000 beds in the seventy-five hospitals (including some institutions in process of conversion into hospitals for the chronic sick) under the control of the Council's Hospitals and Medical Services Committee. The report states that the arrangements begun in 1933 for giving instruction to medical students at the Council's hospitals, in association with the voluntary teaching hospitals, are being continued, and that opportunities for special research work in the Council's hospitals have also been afforded to medical practitioners. The modernization and improvement of hospital accommodation was continued during 1934, including the provision of more isolation blocks at infectious diseases hospitals. After dealing with the general work of the Council for the care of the public health, including the special schemes for combating tuberculosis and venereal disease, the report describes the London main drainage system. This in 1934 covered an area of nearly 160 square miles, and served a population of more than five and a half millions, including 1,161,000 outside the county boundary. An important section of the report is that dealing with housing. Reference is made to the negotiations between representatives of the Council and the Minister of Health that preceded the introduction of the measure which became the Housing Act of 1935, a measure principally concerned with the abatement of overcrowding and redevelopment on a large scale.

Nutrition Centres for London School Children

The report of Sir Frederick Menzies, School Medical Officer of the London County Council, for the year 1935 not only illustrates the immense amount of work done by the education authority in caring for the children's health and physical condition, but marks a number of important advances in this work. Close watch is kept on the nutritional state of the children, and tables show that of more than 189,000 children examined in 1935 over 94 per cent. were satisfactorily nourished. Of the 5½ per cent. who were under-nourished, only 0.08 per cent. (152 out of the 189,000 examined) showed definite pathological malnutrition. The possible ill effects of continued unemployment of parents on the nutrition of children is specially considered. An interesting account is given of the nutrition centres, the organization of which was a new departure during the year under review. The object of the centres is to investigate and assist cases of malnutrition in their earliest stages. These cases were formerly referred to hospitals, where the children were frequently dismissed without treatment as they had no disease—a state of affairs unsatisfactory to all concerned. The arrangements initiated in 1934 for testing the hearing of the school children by the gramophone audiometer have been systematically developed. More than 28,000 children were tested during the year, of whom 7.8 per cent. failed and were examined by otologists to discover the cause of their defective hearing. Many difficulties arise in dealing with the "maladjusted" child, and the report describes the endeavours made to solve this difficult social problem by organize child guidance. Various special reports and inquiries are dealt with in the report, including an interesting investigation into the physique of "athletes" and "non-athletes" among children in elementary schools. Copies of the report can be obtained from the publishers, P. S. King and Son, Ltd., 14, Great Smith Street, Westminster, price 1s. 6d.

Overcrowding in Leeds

A report on a survey of overcrowding in the city of Leeds has been issued by the City Council on the lines required by Section (1) of the Housing Act of 1935. The report also contains a statement showing the accommodation necessary to abate overcrowding. The survey has revealed that there are 2,345 overcrowded houses in the city, the percentage of overcrowding for which is 3.27. On the municipal housing estates there are 605 overcrowded houses, with a corresponding percentage of 5.35. In view of the exclusion from the survey of 30,000 houses in slum areas, many of which are known to be crowded, the percentage of overcrowding for the city as a whole would appear to be somewhere in the region of five. Application of the standard of occupancy in the 1935 Act shows that 950 houses have "half an adult" in excess, 598 have "one adult" in excess, 567 have "one and a half" or "two adults" in excess, while the remainder show greater degrees of excess over the standard. It is pointed out in the report that while the relief of overcrowding may be partly accomplished by the transfer of families from overcrowded small houses to houses of a larger size, it will be necessary to increase the proportion of larger houses, owing to the larger size of the overcrowded families. This special survey has shown also that there are in Leeds 41,665 back-to-back houses of the intermediate and modern type, and has enabled the conditions prevailing in these houses to be accurately ascertained. The Act aims at securing eventually that there will be no houses accommodating more than the number of people permissible according to the size and internal measurements of these dwellings, and it is obvious that the chief difficulty will be the deficiency of houses of appropriate size. As the erection of larger houses proceeds there will be an increasing surplus of smaller houses, which in turn raises the question of policy regarding existing houses in built-up areas. For comparative purposes the opportunity was taken during the survey to apply the local standard while applying the standard laid down in Section 2 of the Act. In this local standard no account is taken of the living-rooms for sleeping purposes, and account is taken of sex separation when one of two children of opposite sexes attains the age of 10. This showed that 13,571 houses were overcrowded owing to excess of numbers, and 1,556 in respect of sex separation, making a total of 15,127 (21.13 per cent.) overcrowded. The corresponding figures for municipal housing estates were 3,705 (32.79 per cent.). The conclusion is drawn that the provisions of the Housing Act of 1935 will not entirely solve the problem in Leeds. Dr. Johnstone Jervis, medical officer of health, and Mr. R. A. H. Livett, housing director, who have been jointly responsible for conducting the survey and drawing up this report, point out that an outstanding defect of the intermediate type of back-to-back house is the lack of privacy, which defect will be no less serious under the new conditions than under the old. They add that it is well known that only on the rarest occasions is the living-room in a working-class dwelling used for sleeping purposes, and there is no reason to believe that this practice will be varied in the future. The effect will be that a number of houses will continue to be overcrowded on a numerical as well as on a sex standard, with the apparent condonation of the local authority, whose responsibility it will be to fix the number of occupants for any particular building.

Central Midwives Board

At the June meeting of the Central Midwives Board it was agreed to inform a local supervising authority: (1) that the suspension of the midwife in order to prevent the spread of infection should be continued until such time as the local supervising authority was satisfied that she was no longer a source of infection; and (2) that the Board had not any jurisdiction in regard to the payment of compensation to midwives under Section 2, Subsection (1) of the Midwives Act, 1926, and was unable, therefore, to make any observations as to the amount of the compensation which should be paid to the midwife

in question. With regard to the granting of approval to institutions under Rule E. 2, it was agreed that the following general principles be followed:

1. That approval under Rule E. 2 should be considered independently of approval of training.

2. That if an institution which is approved both under the Rule and for training ceases to be approved for the latter purpose, the question of its approval under Rule E. 2 should be reviewed, but approval under the Rule should not be withdrawn unless there is a special reason to the contrary.

3. That since the most important exemptions granted by the Rule are connected with the calling of medical aid in an emergency, the nursing during the lying-in period, and the prevention of a spread of infection, the nature and extent of the medical supervision exercised in the hospital should receive primary consideration, attention being paid not only to the number of the resident medical officers but also to their qualifications and, in addition, to the number and qualifications of other whole-time medical officers and to the consultant staff. Other matters to be taken into consideration are: (i) the size of the maternity department and the number of cases dealt with annually; (ii) the facilities available for ante-natal and post-natal treatment; (iii) the facilities available in the hospital for the isolation of suspected cases of infection; (iv) the number and qualifications of the permanent nursing staff of the department; and (v) whether or not any midwives work partly in the hospital and partly on a district.

4. Before any application is granted, the local supervising authority should be invited to express its views.

5. That the list of approved institutions should be revised periodically, say, every five years.

CORRESPONDENCE

Epidemic Nausea and Vomiting

SIR,—I read with interest the article on epidemic vomiting in the *Journal* of June 20th (p. 1242), by Drs. Reginald Miller and Martin Raven, and recalled a small group of cases seen in April this year.

On April 23rd I was asked to see six of a group of twelve children, aged from 3 to 5 years, complaining of vomiting. The first case had appeared three days before, and two days later the foster mother began vomiting and had diarrhoea, which lasted about three days. Inspection of the stools of all the children revealed them to be formed, and without blood or mucus, but it was reported that one child had had relaxed stools. One characteristic I noted, however, was that all except one of the specimens were abnormally light in colour. The children were unaffected by vomiting, and were playing quite happily, and subsequent to the fourth day no further vomiting was experienced.

In their article the authors state: "Considered primarily as a disease of the alimentary system . . . the only type of gastro-intestinal infection which seems to be worth considering is a possible gastric type of Sonne dysentery." Five of the affected children were known to have had Sonne dysentery. As a precautionary measure all stools, including those of the foster mother and those of the remaining unaffected children, were cultured, and were found to be negative for Sonne dysentery. No obvious explanation for the vomiting was found, and, although there is no definite indication that this group corresponds with that described by Drs. Miller and Raven, I report it as being suggestive, and as, perhaps, indicating that Sonne infection may not be the only cause in this type of case.—I am, etc.,

I. FINER,
Assistant Medical Officer.

Southlands Hospital, Sussex,
July 1st.

SIR,—The publication of our paper under the title "Epidemic Nausea and Vomiting" has brought forward one or two points of interest. Dr. C. S. Storrs (June 27th, p. 1320) is specially to be thanked for his description of the epidemic which arose in Mullion in February of this year. We accept his opinion that it was of the same type as the epidemic which we described occurring a few weeks later in Thanet, but we cannot confirm from our cases his observation that the vomiting always preceded the giddiness. In the same issue Dr. R. E. Smith kindly corrected the interpretation we had rather hesitatingly put on the figures which he gave in connexion with an outbreak of Sonne infection at Rugby. His suggestion that there is a gastric type of this infection seems to us a most important point in his original communication, and his figures gave stronger support to his view than we had recognized. We are also indebted to several correspondents who have written to us privately, giving their experiences of epidemics which they take to resemble the one we described.

In our paper we expressed the opinion that "epidemic vertigo," as described by Dr. O. Leyton, was probably not of the same nature as the epidemics with which we were concerned. This opinion was founded on the broad fact that the Thanet and Danish epidemics were all at first, owing to the nausea and vomiting, suspected to be caused by food poisoning; whereas in Dr. Leyton's cases vertigo seemed to be the primary and chief symptom. Dr. Leyton has now kindly sent us some later observations of his on "epidemic vertigo" which, had we been aware of them earlier, would have made us express a more cautious opinion on the relationship of the two sets of epidemic cases. This relationship is still not clear to us, but we readily admit that, in an epidemic showing as its cardinal features the three symptoms of nausea, vomiting, and vertigo, in one set of cases nausea and vomiting might dominate the picture and in another vertigo might be the most prominent symptom. Whatever view may be taken of the relationship between Dr. Leyton's "epidemic vertigo" and our "epidemic nausea and vomiting," it is certainly interesting that vertigo may be a prominent feature in an epidemic disease, even in the absence of nasopharyngeal infection.—We are, etc.,

REGINALD MILLER.
MARTIN O. RAVEN.

July 4th.

Diaphragmatic Hernia (Thoracic Stomach)

SIR,—In the *Journal* of July 4th Dr. G. Ronald Ellis describes an interesting case of "partial thoracic stomach." He states that most of the comparatively few cases recorded in the literature have been in children. This is remarkable, as of the twenty cases—eight men and twelve women—I have seen since 1922 all were between 60 and 74, with the exception of three, who were aged respectively 40, 45, and 50.

In a note on congenital diaphragmatic hernia in *Guy's Hospital Reports* for April, 1929, I recorded six cases which had been recognized at New Lodge Clinic and two in my wards at Guy's Hospital in the preceding seven years. Since that time I have seen eleven additional cases at the Clinic and one at Guy's, making a total of twenty in fourteen years. Of these, two were associated with a large ulcer at the point where the diaphragm nipped the stomach, two with an ulcer, and one with carcinoma at the lower end of the oesophagus; and in one death followed volvulus of the stomach, the whole of which, with part of the transverse colon, was situated in the thorax. Of the remaining cases about half had more or less trivial symptoms referable to the hernia, whilst in the other half the latter was completely latent. In three cases the localization of symptoms in the left side of the thorax led to a correct diagnosis being made before the *x*-ray examination—once by Dr. M. Mitman and twice by Dr J. F. Venables.

Professor T. B. Johnston has pointed out to me that the "thoracic stomach" associated with a short oesophagus is a true hernia, as the whole stomach develops within the abdomen; but in the course of development the oesophagus does not grow in length with sufficient rapidity, so that a part of the diaphragm is drawn through the hiatus oesophageus into the thorax.

In addition to the sixteen cases of diaphragmatic hernia with a short oesophagus I have seen five cases at the Clinic and one at Guy's of the so-called "hiatus hernia," in which a part of the stomach which is generally within the abdomen is forced under certain conditions through the hiatus oesophageus into the thorax; it is sometimes, but not always, accompanied by a part of the oesophagus, which is of normal length. The condition is almost invariably missed in routine *x*-ray examinations, but can be recognized by using a special technique when its presence is suspected on account of the characteristic symptoms (see *Guy's Hospital Reports*, 1934, lxxxiv, 43).—I am, etc.,

New Lodge Clinic, Windsor Forest, July 6th. ARTHUR F. HURST.

"P.U.O."

SIR,—The official interpretation of the above letters is not "Pyrexia of Unknown Origin," as given in the *British Medical Journal* of April 11th, but "Pyrexia of Uncertain Origin"—the original meaning as used both in the South African and the World War sickness returns. At a Second Army medical meeting at Hazebrouck in 1918 one recalls the same error being corrected by an eminent high administrative officer of the Army Medical Services. A perusal of the article itself shows that the distinction is exact and not merely pedantic as the origins of the pyrexia are mostly known, but there is uncertainty as to which is the exact cause in certain or rather *uncertain* cases.—I am, etc.,

J. S. PURDY,
Metropolitan Medical Officer of Health.
Town Hall, Sydney, May 27th.

Zinc Ionization

SIR,—I feel that the annotation in last week's issue, carrying the weight that is natural to such pronouncements, should not be allowed to pass without some slight criticism. The technique described is that of an American who apparently aims at the total destruction of the mucous membrane, regeneration appearing in from three to twelve weeks. Although only twenty-five cases were treated some severe complications followed and the benefit resulting from the treatment was *nil*.

"This relatively simple technique," as your article calls it, is not that originally devised by Philip Franklin, nor generally in use in England. The dose given is six times weaker, and the patient should be ready for a second application in ten days' time. Little discomfort and none of the complications mentioned should occur, and it may well be that the more gentle introduction of zinc ions into the living cells, rather than their destruction, may explain the better results obtained.

In my opinion zinc ionization is particularly valuable in cases of pure paroxysmal rhinitis and in cases of hay fever, especially when seen for the first time in June. For allergic cases generally desensitization with the offending protein is not difficult, and it must be remembered that even with total removal of the nose the patient's blood would still be as sensitive to the pollen or other antigens as before. My criticism, therefore, is that the treatment by zinc ionization should not necessarily be condemned on account of the bad results obtained by an American who uses it so differently to the practice in England.—I am, etc.,

London, W.1, July 6th. FRANK COKE, F.R.C.S.

Drainage of the Maxillary Sinus

SIR,—May I suggest as an alternative to the methods recommended by Mr. A. Miller (*Journal*, June 27th, p. 1299) and Mr. O'Malley (July 4th, p. 45) the making of a permanent opening in the naso-antral wall by zinc electrolysis. It avoids injury to the inferior turbinal and does not cause inflammatory reaction. The operation usually performed seems a severe method of making a permanent opening into a cavity of such moderate size, but the contraction of fibrous tissue resulting from granulations on the edge of the naso-antral opening necessitates it. The method which I prefer avoids this. The technique consists in first puncturing the naso-antral wall with a trocar and cannula, and washing out the purulent secretion. The cannula is then removed and replaced by a stout zinc wire, insulated where it lies in the nose but not where it passes through the wall. It is attached to the positive terminal of a rheostat, the negative electrode being on the patient's arm. A current of 10 milliamperes is allowed to flow for three-quarters of an hour and is then reversed for ten minutes to loosen the wire. If force is used in removing it bleeding occurs and the result may be impaired. The current causes a ring of coagulated tissue impregnated with the antiseptic zinc to be formed around the wire. This killed tissue disappears without giving trouble and the mucous membrane of the nose unites with the mucous membrane of the antrum. The less instrumental examination while this is taking place, say, for three weeks, the better. The discharge from the antrum quickly lessens and ceases in uncomplicated cases. If there is reason to believe that the cavity contains polypi recourse must be had to one of the usual operations. However, there are many cases in which the disease is limited to a collection of pus, and a little assistance will enable the *vis medicatrix naturae* to bring about recovery.—I am, etc.,

London, July 4th. A. R. FRIEL.

Signs of Death

SIR,—The recent article on "Ophthalmoscopic Signs of Death" by Dr. S. Russell Salsbury and Dr. G. Spencer Melvin (*Journal*, June 20th, p. 1249) prompts me to record a simple test which I have used for many years. A towel, handkerchief, rubber tubing, or even a string is bound round the upper part of the arm—loosely to avoid compressing the arteries. If the patient is alive then the vein below the ligature will slowly fill. I published this method in the *Wiener medizinische Wochenschrift* of October 5th, 1935.—I am, etc.,

Vienna, June 28th. HEINRICH RESCHOFSKY.

SIR,—Drs. Russell Salsbury and Spencer Melvin have given us an interesting description of an ophthalmoscopic phenomenon occurring at death. There is one point—an important one—which, I feel sure, all medical men would like to have cleared up. The writers state: "Patients may be alive, and even recover, after the circulation has reached such a low ebb that neither the pulse nor the stethoscope shows any sign of life."

Does this refer *only* to those "accidental" cases on the operating table, where resuscitation is successful, after manipulation of the heart, etc., or does it refer also to ordinary cases of "death," such as we general

practitioners meet with in our daily work? If the latter, it raises the horrible possibility of our making a mistake as to when death has actually taken place ; for I imagine that many of us might not be sufficiently adept to apply the test, or if we were, would not have the opportunity in many cases of doing so at the right time.

Hitherto I have always relied upon the characteristic appearance of death and the stethoscope, and my desire to place the above possibility beyond the peradventure of a doubt is my excuse for troubling you.—I am, etc.,

Sanderstead, Surrey, July 2nd. HERBERT D. EVERINGTON.

Hydrocyanic Poisoning from Nuts

SIR,—As I have never seen reported in the *Journal* of recent years a case of hydrocyanic poisoning due to the eating of the nuts of the kalabey apricot, I should like to record one which we had in our hospital last week.

A child aged 5 was brought in unconscious by his father ; the history was that he was perfectly well until an hour before, when he had suddenly lain down, and since when they had been unable to waken him. During this time he had had one convulsion of about ten minutes' duration. They volunteered the information that he had been eating nuts from these apricots, which are like very bitter almonds and are known to contain hydrocyanic acid.

On examination the child was found to be unconscious, his respirations were somewhat laboured, his lips cyanosed, and there were evidences of collapse, clammy skin, fixed eyes, dilated pupils, flaccid limbs, and poor pulse. A stomach tube was passed, and on washing out his stomach some of the pieces of the nuts were returned. By this time his pulse was worse and his breathing more laboured, so he was given an injection of camphor, taken out into the open air, and inhalations of ammonia were given at intervals. He rallied somewhat, and we were able to get him to drink, so he had 10 grains of iron sulphate, 15 minims of tinct. ferric chloride, with 1 drachm of magnesium carbonate.

After this he lay for two hours, still unconscious, and he certainly looked as if he might die at any moment. At the end of this time he gradually became conscious and began to drink freely, having first been violently sick, and vomited up a fair amount of small pieces of nuts. Two drachms of ol. ricini were given and he slept well all night, and in the morning had an enema with a good result ; he was feeling well, and showed no sign whatever of the serious state he had been in the night before.

We could not understand how he could have eaten so many nuts as they are very bitter, but an explanation was found in the fact that he had got some sugar and so had dipped each nut in sugar before eating it. They were then like sugar-coated pills.—I am, etc.,

C. M. MCTAGGART, M.B., Ch.B.Ed., D.T.M.
E.M.M.S. Hospital, Nazareth, June 22nd.

Alcoholism and Prohibition in New York

SIR,—The annotation on alcoholism and prohibition in New York in the *Journal* of June 27th (p. 1308) is of interest in so far as it shows that with the marked decrease in drinking in the first two years of prohibition there was a definite fall in alcoholic admissions to Bellevue Hospital. Since repeal of the Eighteenth Amendment there has been a steady increase in the consumption of alcohol, although not so large as had been anticipated by Federal and other authorities. The effect of this increased consumption is noted at Bellevue, and is being recognized in other directions. One of the most recent recognitions comes from the North-Western National Life Insurance Company of Minneapolis. In the year ending April 1st, 1932, 8.2 per cent. of applicants for life insurance under 30 years of age used intoxicants ; in 1935 the figures had risen to 19.5 per cent., and in 1936 to 23.8 per cent. In the age group 30 to 45 years the figures were 22.2, 36.9, and 44.9 per cent. In the analysis of rejections only cases of heavy indulgence were considered. In the year ending April 1st, 1932, such rejections numbered 17.6 per cent. at all ages, rising to 23.8 per cent. in 1936. In the age group under 30 years the figure in 1932 was 11.9 per cent., rising to 33.7 per cent. in 1936. In a recent communication covering these figures the manager states: "Alcoholic excesses caused approximately as many rejections as heart impairments ; abnormal blood pressure is the largest cause of insurance rejections, with heart defects and excessive drinking running a neck-and-neck race for second place. Alcoholic excesses, however, are the largest single cause of rejection among applicants under 45 years of age."—I am, etc.,

Beckenham, Kent, June 30th. COURTENAY C. WEEKS.

Injection of "Prontosil": A Warning

SIR,—In view of the fact that, according to recent reports from Germany, there seems to be some risk of toxic reactions associated with the administration of "prontosil" soluble *intravenously*, we think it advisable that this preparation should be injected only by the *intramuscular* route. It is felt that this warning is necessary because until the indications for "prontosil" are more exactly defined this drug is likely to be used in a variety of different conditions. It will further be realized that as absorption from muscle is rapid with "prontosil" it is seldom that any therapeutic advantage is to be gained in giving the drug intravenously.—We are, etc.,

London, W.C.2, July 6th. BAYER PRODUCTS LTD.

Death Rate from Tuberculosis in Mental Hospitals

SIR,—The work of Dr. F. Douglas Turner at the Royal Eastern Counties Institution in reducing the alarming death rate from tuberculosis fully bears out the contention of those who maintain that institution tuberculosis can be reduced by ventilation and better diet.

The following shows the death rate from all forms of tuberculosis at the Royal Eastern Counties Institution:

1859–1904	4.6%	1927–1934	0.34%
1906–1926	1.42%	1935	0.18%

Roughly speaking, the earlier improvement is due to ventilation and the later improvement to diet. The total death rate for 1935 from all causes was 1.98 per cent. Those interested in the matter should read Dr. Turner's very valuable annual report for 1936.—I am, etc.,

Witham, Essex, July 6th. E. J. FITZGERALD, M.D.

Medicine, the Hospitals, and the Press

SIR,—I have read with great interest the article on "Medicine and the Press" in the *British Medical Journal* of June 20th, in which you express the opinion that the evil of misrepresentation and "vulgar exploitation" of medical news can be overcome more effectually by co-operation than by recrimination.

It is clearly in the best interests of the voluntary hospitals that the public should know something of the constant advance in medical science and practice which is still going on. The Propaganda Committee of the King's Fund have found, however, that, while it is always possible to tell the story of those who have helped in the past to raise our hospitals to their present standard, what is happening to-day cannot be told with the same freedom.

Your suggestion of a medical news service is a most interesting one, and, if it proved acceptable, should enable

the public to receive such carefully selected news as would tend to promote and maintain a wider interest in the work of the voluntary hospitals and a stronger desire to take some share in their support.—I am, etc.,

E. A. H. JAY,
Secretary for Propaganda, King Edward's Hospital Fund for London.

10, Old Jewry, E.C.2, July 2nd.

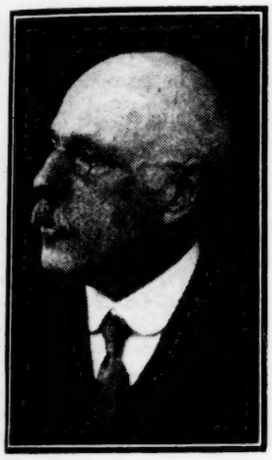
Obituary

T. W. P. LAWRENCE, M.B., F.R.C.S.

Late Pathologist, University College Hospital, and Lecturer on Morbid Anatomy in the Medical School

We had to announce last week with much regret the death of Mr. T. W. P. Lawrence on June 26th. In 1923, having reached the age limit, he retired, to the great regret of his colleagues and pupils, after thirty-three years' loyal service to University College and Hospital. Since then he had done admirable work for the Museum of the Royal College of Surgeons of England.

Thomas William Pelham Lawrence was born on March 20th, 1858, at Ware, in Hertfordshire. After leaving Highgate School he began the study of law, but this palled on him after a time, and becoming attracted by the keenness of a medical student friend, he was lured towards medicine, and in 1879 entered University College and Hospital. He obtained the M.B.Lond. degree and the M.R.C.S. diploma in 1887, and after a little experience as assistant to a doctor in Devonshire his thoughts turned towards the educational side of medicine. Returning to University College Hospital he served for a time under Sir Rickman Godlee in the out-patient department, and in the dissecting room under Sir G. D. Thane. The latter, detecting in him a high degree of skill in draughtsmanship, gave him an important commission for a series of illustrations to Quain's *Anatomy*, and secured him as curator of the museum in succession to Charles Stonham.



Lawrence obtained the F.R.C.S. in 1890. Besides the curatorship of the museum at University College he held the posts of lecturer in pathological anatomy at the medical school and pathologist to the hospital. He was also for many years examiner in pathology for the University of London. As pathologist to University College Hospital he made and recorded with his own hand nearly 3,000 post-mortem examinations. To quote from an appreciation of his work by "H. R. S." in the *University College Hospital Magazine* for May, 1923, "Lawrence's wide and deep acquaintance with morbid anatomy constituted him the referee on all doubtful specimens removed from patients in the hospital." He collaborated in the production of the article on tumours in Choyce's *System of Surgery*, and in that of the surgical and obstetrical and gynaecological catalogues. During his curatorship over seven thousand pathological specimens were sent to the museum, and many of the best preparations, arranged on a system of his own devising, owe much of their value to his great skill as a dissector.

Two qualities contributed much to his success—his linguistic and artistic powers. Besides Latin and Greek (translations from which he often made for his friends) he read with facility French, German, Italian, Spanish, Swedish, and Russian, and he kept himself well informed of the chief works on pathology written in those languages. He was an accurate draughtsman, and had a sure touch with the brush. His drawings of the bones in Quain's *Anatomy* are admirable studies, carried out under the eye of Thane, and these remain a permanent record of his artistic skill.

A man of such accomplishments, with sound judgement and self-effacing modesty, proved an acquisition to the reviewing staff of the *British Medical Journal*. Lawrence and the late Sir Dawson Williams became acquainted at University College Hospital, and their friendship lasted through life. A virtue they had in common was thoroughness: everything "T. W. P. L." put his hand to he did with his might. After the death of his old friend in 1928 he continued to write for these columns, and it was only last year that he finally gave up. "The time has come," he wrote, "through age and infirmities, for me to drop work entirely. I feel I could not work in a way to give satisfaction." We are glad to know that his valuable help to the *Journal* and its readers was a source of pleasure to him.

We are indebted to Sir ARTHUR KEITH for the following appreciation:

Of the many able men with whom I have worked I think Mr. T. W. P. Lawrence was the most helpful and agreeable of them all. The last man he thought of was himself; he shrank from publicity of every form; he made and helped to make many bricks of knowledge, but he never thought of stamping them "T. W. P. L. fecit."

In 1925 he had retired from his post at University College Hospital and came to the Royal College of Surgeons of England, under the following circumstances. Professor Samuel Shattock, pathological curator to the College, died in 1924. At the time of his death he and Mr. Cecil Beadles were making a radical revision of that large section of the museum which is devoted to special pathology. Mr. Beadles, who succeeded Professor Shattock, was a man of great technical skill and had organizing ability of a high order, but was extremely diffident of his own judgement. He therefore asked that someone with a wider knowledge of morbid anatomy and who was experienced in drafting brief but lucid descriptions of specimens, old and new, should be appointed to collaborate with him. At his suggestion the council of the College invited Mr. Lawrence. It was a happy and successful partnership, which went on until the spring of 1933, when Mr. Beadles died and my term of office as conservator came to an end. Mr. Lawrence continued to serve under my successor, Dr. John Beattie, until the spring of 1935, when Mr. Proger became pathological curator. The last time his name appears in the minutes of council of the College is in March, 1935: the entry records the receipt of a letter from Mr. Lawrence in which he thanked the council for its appreciation of his services and the liberality with which it had treated him. All his work preserved in the catalogues of the museum is anonymous, save to those who have an eye for scholarship and for style.

My friendship with Mr. Lawrence began in 1893, when I was doing post-graduate work at University College, London, and he was curator of the museum there. It was then that he was assisting Sir George Thane in the preparation of a new edition of Quain's *Anatomy*. In that edition there appeared new drawings in the section of osteology—the finest and most faithful drawings of human bones known to me. The drawings are initialled "T. W. P. L."

Dr. HERBERT SPENCER writes:

When T. W. P. Lawrence left University College Hospital, in 1923, I published in its *Gazette* an account (referred to above) of his early life, education, and personal qualities, together with a lifelike photographic portrait.

I have read with pleasure Sir Arthur Keith's remarks on Lawrence's subsequent ten years' work at the Royal College of Surgeons and his just appreciation of Lawrence's knowledge, modesty, scholarship, and skill. During that period he was living, with his wife and daughter, in a charming house at Tadworth, with a beautiful garden and lawn, tended by him with loving care as long as his health allowed. A few weeks before his death he moved to a smaller house at Bexhill, where he passed away, after much suffering, on June 26th.

Lawrence was a lover of beauty in all its forms, and its skilful exponent with pencil and pen. A great linguist, in addition to the classics he read with facility six modern languages, and was the only man I have known who found Russian easy. He loved the English landscape, and the birds and flowers and trees were all his friends. The robins built in his veranda and fed at his table. True to his principles that a man should be three parts heart and one part intellect, he would watch the young rabbits in his garden eating the flowers he had reared with so much care. I have known him very sad at the loss of a bough from a tree which had been his friend for many years. The tree of true and tried friendship is of slow growth and has few branches: the loss of Lawrence, whom I have known and admired for more than half a century, has left me sad at the reduction of the number of dear friends, but has left many pleasant and fragrant memories.

The death of Dr. R. B. SEPHTON, which took place on July 2nd, removes a well-known figure from the medical circles of South Lancashire. Richard Burrows Sephton was born in 1870 at Culcheth and he studied medicine at Manchester and Edinburgh. He obtained the Scottish triple qualification in 1910 and from then onward he lived a very strenuous life, succeeding to his father's practice on the latter's death in 1915. He worked single-handed in a large practice which had its centre at his home in Culcheth, but extended to Leigh, Golborne, and Warrington. He was a J.P. for the County of Lancaster, and held numerous appointments as medical officer and vaccination officer in the districts in which he practised. Dr. Sephton was always ready for work, and his kindly and cheerful manner made him very popular. His death from bronchopneumonia occurred after only a few days' illness.

Dr. RICHARD JOHN LLOYD EDWARDS of Cardiff died on June 28th at the age of 65. He was born at Talysarn, N. Wales, and was a direct descendant of the Rev. John Jones of Talysarn, the famous Welsh divine. Educated at St. Mungo's and Anderson's Colleges, Glasgow University, Lloyd Edwards was a distinguished student, and obtained first-class honours in clinical medicine. He graduated M.B., C.M. in 1895, and M.D. in 1906. After a short period in general practice Dr. Edwards was appointed medical superintendent of the Swansea Union Infirmary, which post he held for twenty-five years. He was an ideal Poor Law medical officer, and was much loved by his patients. A most genial disposition, unfailing enthusiasm for his profession, and absolute consistency of character were attributes which would have brought him much success in ordinary practice. These qualities were no less shown in his Poor Law work, and Dr. Edwards will be long remembered for his devoted service and professional skill. A severe illness brought this fine work to an end when he was in his prime. He ultimately made a remarkable recovery under the care of Lord Moynihan at Leeds. He retired to Cardiff and regained his health, which, indeed, appeared afterwards to be better than at any previous time of his life. Lloyd Edwards was able to undertake consulting work under the Workmen's Compensation Act, and was frequently engaged by the colliery companies to represent them in the county courts of Glamorgan and Monmouthshire. Here again Lloyd Edwards excelled, for he was a reliable medical witness, scrupulously fair in opinion, and most careful to avoid any overstatement. Whenever he was in doubt this would be given to the injured workman, and many of his cases were settled out of court. He was greatly respected by everyone associated in this work, and his genial presence will be sorely missed by his colleagues. Lloyd Edwards never married, and lived with a sister and his mother, who is nearly 90 years of age, and to whom deep sympathy is extended in their grievous bereavement.

I. J. D.

The following well-known foreign medical men have recently died: Professor HUGO SCHOTTMÜLLER, emeritus professor of internal medicine at Hamburg, aged 69; and Dr. EUGÈNE CHARLES PIERRE AVIRAGNET, an eminent Paris paediatrist and officer of the Legion of Honour, aged 70.

Medico-Legal

WOMAN DOCTOR CONVICTED OF PROCURING ABORTION

On June 30th, Dr. Laura Winifred Sanders-Bliss of Bayfield, Little Bookham, Surrey, was convicted of conspiring to perform, and of performing, illegal operations on five women, and was sentenced by the Lord Chief Justice, Lord Hewart, to three years' penal servitude. Her nurse, Miss Bickell, was sentenced to twelve months' imprisonment.

The case against Dr. Bliss was that each of the five patients had interviewed the doctor, a fee had been arranged varying from £25 to 100 guineas, the patient had visited the house at Bayfield, and an operation had been performed in a bathroom fitted up as an operating theatre. Women patients gave evidence supporting the charge, and Dr. Bliss gave evidence in her defence. She said that she had served as a nurse during the war, had won two Red Cross scholarships worth £1,000 and £300, and had gained the qualification of L.M.S.S.A. Her patients had included film actors and actresses, and she practised in Harley Street as well as at Bookham. She specialized in certain women's complaints, and for specialized treatment her usual fee was 50 guineas inclusive. In answer to Sir Patrick Hastings, her counsel, she said she had been horrified at the number of women who tried to get rid of unwanted children. She said that she had never performed an illegal operation, but specialized in treating women who had tried to perform an abortion on themselves. In cross-examination she agreed that in certain cases it was usual to have a second opinion. She said that she considered herself competent to deal with these patients and tried to help them by keeping their secrets, but for her own protection in future she would take no risks but would get a second opinion.

Nurse Bicknell, in the witness-box, said that the women patients who had given evidence had been ill when they arrived at Bayfield House; one had been nervous, run down and melancholy, and dreadfully unhappy.

Dr. F. J. McCann said that, assuming that Dr. Bliss had described the cases correctly and that abortion was inevitable, her treatment was the only successful treatment which could be given. Sir Patrick summarized her defence as "I did only my duty." The Lord Chief Justice said, in passing sentence, that the offences rendered Dr. Bliss liable to penal servitude for life, and that it was obvious that she had been practising as a professional abortionist.

An unusual feature about the case is that, from the meagre reports of the evidence which are available, none of the patients seems to have come to any harm. Such prosecutions usually result from a mishap and a death, and the accused is usually unqualified. To procure an abortion with any object except to preserve the patient's health is still an offence against the law, and a general practitioner who does so runs a grave risk.

Universities and Colleges

UNIVERSITY OF OXFORD

The Board of Management, on the recommendation of the Professor of Anatomy, have awarded the Theodore Williams Scholarship in Human Anatomy, 1936, to R. T. Campbell, Demy of Magdalen College.

UNIVERSITY OF CAMBRIDGE

During the month of June the title of the degree of M.B. was conferred on H. Drummond Robinson and D. J. Thompson of Newnham College, and W. F. Young of Girton College.

The Marmaduke Sheild Scholarship has been awarded to W. W. Brigden of King's College.

Elmore Medical Research Studentships

The Board of Management of the Frank Edward Elmore Fund will shortly award not more than three or four studentships for research. The studentships are open to male graduates of any university in any country who were born at any place within the British Empire other than Scotland. The students first appointed will work in the Department of Medicine under the direction of the Regius Professor of Physic. The commencing salary will be £300 a year, and the appointment will be for two years in the first instance. Further information may be obtained from the Regius Professor of Physic, Department of Medicine, University of Cambridge, to whom applications, together with three testimonials, a statement of previous appointments, and copies of published papers, should be sent by August 10th.

UNIVERSITY OF LONDON

Appointments

At a meeting of the Senate held on June 17th Mr. H. L. Eason was reappointed a Member of the Court for a period of five years from October 1st.

Dr. A. Thomas was appointed a Governor of the University College of Wales, Aberystwyth.

Recognition of Teachers

The following have been recognized as teachers of the University in the subjects indicated in parentheses:

Westminster Hospital Medical School.—Mr. A. C. H. Bell (Obstetrics and Gynaecology); Dr. N. F. Maclagan (Chemical Pathology).

London Hospital Medical College.—Lieut.-Colonel E. T. Burke, D.S.O. (Venereal Diseases).

Charing Cross Hospital Medical School.—Mr. A. Sunderland (Anaesthetics).

London (Royal Free Hospital) School of Medicine for Women.—Dr. R. T. Brain (Dermatology).

University College Hospital Medical School.—Dr. P. M. D'A. Hart (Medicine); Mr. A. K. I. Jones, M.R.C.S., L.R.C.P. (Dental Surgery).

London School of Hygiene and Tropical Medicine.—Mr. T. C. Angus (Hygiene and Public Health).

Amendment of Regulations

The second paragraph of the regulations for the M.B., B.S. Examination for Internal Students (*Red Book*, 1935–6, p. 276) was amended to read as follows:

Candidates who pass in Anatomy and Physiology at the Second Examination for Medical Degrees, Part II, in July of any year will be permitted to enter for the M.B., B.S. Examination in May three years later, provided that they have otherwise complied with the Regulations;

and the Regulations for External Students (*Blue Book*, September, 1935, p. 260) were similarly amended.

The Senate resolved that the operation of Regulation 3 of the Regulations for the Post-Graduate Diploma in Psychological Medicine (*Green Book*, 1935–6, pp. 122–3) be suspended until further order of the Senate, and that, while this Regulation is suspended, the Examination be conducted in accordance with the requirements of the old Regulation 3 as set out in the *Green Book* of 1934–5, p. 123.

UNIVERSITY OF BRISTOL

The Beaverbrook Fellowship for 1936–7 has been awarded to F. J. W. Lewis, M.B., Ch.B.

At a meeting of the Senate a vote of thanks was accorded Emeritus Professor I. Walker Hall, M.D., for the valuable work he has done in the last three years in acting as Director of the Preventive Medicine Laboratory and in establishing its work.

UNIVERSITY OF BIRMINGHAM

Dr. Clifford G. Parsons, at present holding the appointment of resident medical officer at the Birmingham United Hospital, has been appointed Walter Myers Travelling Student for one year from February 1st, 1937, to undertake research on "Anaemia in Relation to Diseases of the Cardiovascular System" at New York and at Baltimore or Boston, U.S.A.

At a congregation held on July 4th the following medical degrees were conferred:

M.CH.—*A. L. d'Abreu, F. A. R. Stammers.

M.B., CH.B.—†‡S. D. M. Court, †‡E. J. Goldman, †O. S. Hart, †‖J. A. R. Johnson, †‡A. H. M. K. Tabatabai, †H. J. Trenchard, Margaret E. Adams, L. W. Aldridge, J. S. Brocket, Barbara B. Buckle, P. N. Coleman, Cynthia J. Dudley-Dunn, O. M. Galal, Ann A. Guest, R. V. Jones, G. S. Lester, M. H. Lloyd, ‡C. R. Lowe, ‡Isabel M. Martineau, E. Mitton, P. J. O'Meara, Nellie M. Plowright, Frances E. Radcliffe, J. H. Shann, Blanche W. Spencer, Ailsa M. L. Whitehouse, Helen M. Wood, S. R. Wood.

* With honours. † Second-class honours. ‡ Distinction in medicine. ‖ Distinction in Midwifery and Diseases of Women.

D.P.H.—Laura L. Bateman, Elizabeth E. Benson.

The following scholarships, medals, and prizes have been awarded: *Richard Fenwick Post-Graduate Scholarship*, H. B. Hunt, *Queen's Scholarship* (third year), B. A. E. Johns; (fourth year), W. G. Mills; (fifth year), C. M. Fenn; (final year), J. A. R. Johnson. *Ingleby Scholarship* (final year), J. A. R. Johnson. *Arthur Foxwell Memorial Medal* (final year), and *Priestley Smith Prize in Ophthalmology* (final year), Isabel M. Martineau. *Sampson Gamgee Memorial Medal in Surgery* (final year), E. J. Goldman. *Russell Memorial Prize*, S. D. M. Court. *Leith-Neumann Prizes in Pathology* (fourth year), Medical, Dr. R. Humphreys; Dental, Mary I. Prince. *Peter Thompson Prize in Anatomy* (third year), P. W. W. Gifford and B. A. E. Johns (divided). *John Barritt Melson Gold Medal for Physiology* (third year), B. A. E. Johns.

UNIVERSITY OF MANCHESTER

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—S. G. Abelson, J. C. Brundret, P. J. Burke, J. H. B. Cantley, Caroline J. Chalmers, A. J. F. Crossley, G. D. Dawson, J. Goldman, A. H. Gregson, D. Halpern, B. P. R. Hartley, I. Hesford, J. Hilton, A. D. Hoffmann, G. M. Komrower, Evaleen N. A. Milligan, Eleanor M. Mills, E. J. Mitchell, J. L. Morgan, B. Portnoy, D. A. Richmond, *E. N. Rowlands, R. M. Shaw, F. W. Smith, N. Taylor, D. J. Walker, G. W. Ward. *Part I* (*Forensic Medicine and Hygiene and Preventive Medicine*): J. C. Babbage, I. W. Ball, P. E. Ball, T. E. Barlow, G. H. H. Benham, Muriel L. Bennett, Gretel Bergheimer, G. Berry, M. J. Blank, T. Dinsdale, J. H. France, Rosaline Green, Edith A. Greenhalgh, R. S. P. Hawkins, F. G. Hibbert, T. Holme, W. Ingman, Monica M. Job, T. H. Lawton, Katharine I. Liebert, N. J. de V. Mather, H. N. Osborne, Nydia E. Panton, A. F. Pearson, W. A. Robson, Mary A. Rogerson, R. N. Stansfield, T. S. Stewart, F. Stratton, N. Whalley, A. B. White, J. H. Wilding. (*Pathology and Bacteriology*): L. S. Anderson, L. Ballon, R. S. A. Beckett, C. D. Coe, J. H. Ferguson, W. S. Holden, R. B. Hollos, R. Jackson, G. B. Locke. (*Pharmacology*): T. M. Brand, J. E. Coates, T. B. S. Dick, A. M. Dickson, P. N. Holmes, D. N. Kiff, P. W. Kippax, D. Livshin, Constance M. F. Lyth, Jean Mason, A. P. Massie, J. C. Mellor, J. C. Ramsden, G. H. Whittle, E. J. Yates.

* Distinction in Medicine.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—(*Part II*): J. A. Hobson. (*Part I*): Eleanor B. Schill.

The following candidate has been approved at the examination indicated:

DIPLOMA IN BACTERIOLOGY.—J. G. Murray.

UNIVERSITY OF LIVERPOOL

The following candidate has been approved at the examinations indicated:

M.D.—L. G. Anderson, H. M. Cohen, D. A. Levin, Freda B. Pratt.

M.B., CH.B.—[1] [2]Beryl Edgecombe, [1] [2]L. Henry, [1] [3]A. B. Higginson, [1] [2]W. S. Sutton. *Part III*: O. G. Bark, D. Barton, A. H. Baxter, J. G. Bogle, P. S. Byrne, H. Cantor, Eileen Chrimes, S. E. Cooke, J. B. David, R. E. A. Davies, F. C. Deller, T. M. Doran, Mabel M. Drummond, G. H. Ellidge, Jennet Evans, A. Fairbairn, H. Gewater, A. J. Gill, N. M. Hancox, R. P. Harbord, G. E. Hesketh, E. A. K. Hoppins, Gwenddolen M. Hughes, F. Lanceley, H. R. W. Lunt, K. S. E. MacRae, [2]F. T. Madge, J. V. Manning, G. D. Owen, Kathleen M. Pearson, A. C. T. Vaughan, T. E. Whitby. *Part I*: [4]H. G. A. Almond, [4]H. Alstead, H. Angelman, C. T. Baynes, Patricia M. Bennett-Jones, A. L. Black, E. J. Bowmer, A. R. Bracey, D. W. Bracey, H. Braslavsky, [4]B. H. Brindle,

H. Buckley, Sheila Carmichael, B. Carruthers, W. H. R. Cook, J. W. Crowther, [4]H. Dakin, R. B. Davies, D. J. Doherty, J. Donnelly, Mary W. Gaskell, K. B. Gibson, J. Griffith, W. J. Hay, Anne F. M. Heaney, S. Hen, D. R. Holden, R. S. Holgate, G. O. Hughes, [4]D. A. Hunt, A. L. Hutson, Brenda M. Jones, Iola L. T. Jones, P. Jones, Helen Kay, R. J. Keating, J. C. Kee, J. C. Kitchin, E. Leather, G. L. Manson, [4]J. Mills, J. Moroney, A. Nachmanovitz, [4]S. Newman, E. N. Owen, R. A. C. Owen, J. G. Pritchard, W. Pritchard, D. J. Roberts, G. I. Roberts, R. H. Roberts, G. M. S. Ryan, [4]E. L. Salingar, G. Sanderson, Joyce M. Scholefield, V. K. Summers, G. C. Tweedie, Gwenda Vaughan, Lucy H. E. Walker, R. H. White-Jones, A. R. Whitman, A. H. Williams, [4]C. J. Williams, I. P. Williams, Joan S. Wood, G. Wynne-Griffith, M. Wynroe. *Passed in Individual Subjects:* O. M. Haarburger, E. P. Houghton, G. Karstaedt, B. I. Phillips, E. G. Wright (Pharmacology and General Therapeutics). *Part II:* A. M. Abrahams, J. de Bastarrechea, [5]S. Bender, D. Bovars, L. Bovars, W. E. G. Bradford, Sheila Carmichael, E. Claitman, P. Cohen, K. A. Colenso, K. W. Evans, J. G. Fox, Constance M. Frazer, J. Gendle, T. C. Gray, [5]S. Hen, Elsie O. Hughes, H. Hughes, [6]R. R. Hughes, T. S. Jones, G. Karstaedt, J. Kay, J. Lawson, A. T. Leggate, M. Libman, [6]H. K. Lucas, C. McGibbon, G. B. Manning, R. Marcus, Doreen M. Martin, E. H. Moore, W. H. G. Patton, G. H. Rigg, [5] [6]R. S. Riley, [6]W. A. M. Robinson, P. J. Rooney, J. M. Russell, G. H. Shaw, A. C. Smerdon, A. R. Unsworth, Gwenda Vaughan, J. Wajnerowicz, N. Waldman, [6]Evelyn M. Williams, G. E. O. Williams, Margaret E. Williams, H. Zalin. *Passed in Individual Subjects:* A. M. Brown, K. W. Cameron, L. H. Chandler, W. E. Coates, A. S. Hall, Geraldine M. H. Paul, J. P. G. Rogerson, S. R. Warren (Public Health).

D.P.H.—E. C. Benn, W. N. M. Mason, T. H. Pierce, [7]F. Pygott, H. R. Shone, Edna L. Smart, B. A. Taylor, Mary M. Thomson, [7]T. P. Twomey.

DIPLOMA IN TROPICAL HYGIENE.—W. Barnetson, D. L. Cran, R. B. S. Smith.

[1] Second-class honours. [2] Distinction in Surgery. [3] Distinction in Obstetrics and Gynaecology. [4] Distinction in Pharmacology and General Therapeutics. [5] Distinction in Forensic Medicine and Toxicology. [6] Distinction in Public Health. [7] With distinction.

UNIVERSITY OF LEEDS

At the annual degree ceremony, held on June 29th, the honorary degree of LL.D. was conferred on Dr. Henry Drysdale Dakin, F.R.S.

UNIVERSITY OF WALES

WELSH NATIONAL SCHOOL OF MEDICINE

The following candidates have been approved at the examinations indicated:

PHARMACOLOGY.—D. C. Brown, Alice Davies, C. Davies, G. R. Davies, G. C. D Evans, *D. B. E. Foster, T. Griffiths, Blanche Phillips, R. Tipple, Emily K. Williams.

PATHOLOGY AND BACTERIOLOGY.—D. W. Absé, S. W. Beswick, Alice Davies, Miriam E. Davies, D. G. Evans, Gweneth Howell, A. H. Millard, Mary D. Owen, W. L. Ll. Rees, R. Tipple, *Emily K. Williams, Mary Williams.

OBSTETRICS AND GYNAECOLOGY.—R. Bloom, *Marjorie G. Bryan, C. D. Chilton, Sonia D. Dymond, T. J. Evans, J. Farr, W. R. L. James, J. G. Jones, C. K. B. Lennox, H. Rees, H. J. A. Richards, J. P. Spillane, J. Thomas.

SURGERY.—*P. T. Bray, D. J. Davies, M. P. Embrey, M. Goldberg, Nansi E. Harry, Catherine J. Howell, S. A. Jenkins, A. J. Thomas, H. O. C. Williams.

MEDICINE.—*P. T. Bray, D. J. Davies, M. P. Embrey, M. Goldberg, Nansi E. Harry, Catherine J. Howell, *S. A. Jenkins, Rona Price-Davies, A. J. Thomas.

* With distinction.

The following candidates have satisfied the examiners in the examination indicated:

DIPLOMA IN PUBLIC HEALTH.—*(Part I)*: D. J. N. McNab, J. B. S. Morgan, W. E. Thomas, J. T. Watkins.

UNIVERSITY OF GLASGOW

At a ceremony of graduation, held on June 26th, the degree of M.D. was conferred on M. MacGregor.

UNIVERSITY OF ABERDEEN

At the meeting of the Senatus Academicus, held at King's College on June 30th, Professor David Campbell, *M.C.*, M.D., F.R.C.P.S., was reappointed Dean of the Faculty of Medicine for the ensuing academical year.

Professor E. W. H. Cruickshank, M.D., was appointed to deliver the John Farquhar Thomson Lectures in 1936–7. This lectureship was instituted to afford information to young persons about the care of the body in early life with a view to its healthy development.

NATIONAL UNIVERSITY OF IRELAND

UNIVERSITY COLLEGE, CORK

The following candidates have been approved at the examinations indicated:

M.B., B.CH., B.A.O.—*B. O'Neill, *F. Lawton, *J. N. Hennessy, *M. Crowley, *W. F. Tierney, *T. Creedon, M. J. Barry, D. Buckley, T. J. Coffey, Alice M. Glanville, P. J. Kelleher, Christina M. Murphy, Florence C. Murphy, J. O'Sullivan, Mary P. Quinlan, T. P. Riordan, G. F. Russell, J. Russell, T. F. Shine, Helena P. Tracy. *Part I:* T. J. Conran, M. J. Downing, H. Gremson, M. F. Magnier. *Part II:* P. F. O'Connor, J. W. Reade.

D.P.H.—G. R. Cross. *Part I:* *T. P. O'Connor, R. T. Ahern, J. J. Hurley, T. J. Mullins, T. P. O'Connor.

* Second-class honours.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Elections to Council

Three Fellows were elected on July 2nd into the Council to fill the vacancies caused by the retirement in rotation of Mr. F. J. Steward, Mr. R. G. Hogarth, and Mr. R. E. Kelly. The newly elected members of the Council are Mr. R. E. Kelly (Liverpool) (re-elected), Mr. C. Max Page (St. Thomas's), and Mr. W. H. Ogilvie (Guy's).

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—H. M. Sinclair.

MEDICINE.—J. M. Lea, J. R. Rocyn-Jones, J. K. Sargentson.

FORENSIC MEDICINE.—J. M. Lea, J. R. Rocyn-Jones, J. K. Sargentson, C. W. Williams.

MIDWIFERY.—J. S. P. Coutts.

The diploma of the Society has been granted to H. M. Sinclair.

The Services

LEISHMAN MEMORIAL PRIZE

Major J. S. K. Boyd, R.A.M.C., has been awarded the Leishman Memorial Prize for the year 1935, consisting of a silver medal and a sum of £30. This prize is awarded annually to an officer of the Royal Army Medical Corps or of the Army Dental Corps for work of outstanding merit.

NORTH PERSIAN FORCES MEMORIAL MEDAL

A. A. Forbes Brown, M.D., D.T.M. and H., Colonial Medical Service, has been awarded the North Persian Forces Memorial Medal for the year 1935 for his paper on "The Ulcer Syndrome in Tropical Africa," published in the *Journal of Tropical Medicine and Hygiene*. This medal is awarded annually for the best paper on tropical medicine or hygiene published in any journal during the preceding twelve months by a medical officer, of under twelve years' service, of the Royal Navy, Royal Army Medical Corps, Royal Air Force, Indian Medical Service, or of the Colonial Medical Service.

ALEXANDER MEMORIAL PRIZE

Major J. Biggan, *M.C.*, R.A.M.C., has been awarded the Alexander Memorial Prize for the year 1935, consisting of a gold medal and a sum of £40. This prize is awarded annually to an officer of the Royal Army Medical Corps for professional work of outstanding merit.

DEATHS IN THE SERVICES

Fleet Surgeon Alexander George Pemberton Gipps, D.S.O., R.N. (retired), died on June 25th, aged 81. He was the only son of the late A. P. Gipps, Esq., and was educated at St. Bartholomew's Hospital, taking the M.R.C.S. in 1877 and the L.R.C.P.Ed. in 1878, also subsequently the F.R.C.S.Ed. in 1891. Entering the Navy as surgeon in 1879, he became fleet surgeon on August 7th, 1899. He received the Gilbert Blane Medal in 1892. After his retirement he joined the R.A.M.C. for the war of 1914–18, with the temporary rank of lieutenant-colonel, and served in France for a time, afterwards in charge of the hospital ship *Asturias*, and received the D.S.O. for his services when she was torpedoed.

Sir Behari Lal Dhingra, C.I.E., M.D., died on July 2nd at Golder's Green, aged 62. He was born on July 21st, 1873, the son of Dr. Sahib Ditta Dhingra of Lahore, and was educated at the Punjab University and at University College, London, and took the M.R.C.S. and L.R.C.P.Lond. in 1895, and the M.D. of Brussels in 1896. Returning to India he was appointed chief medical officer of Jind, one of the Sikh States in the Punjab, and held that post till 1920, when he was appointed Chief Minister of State of Jind, a post which he held up to his death, which occurred while he was on furlough in England. He had the confidence both of the Rajah of Jind and of the Government of India. In 1917 he received the Kaisar-i-Hind gold medal, first class; in 1924 he was made a C.I.E., and was knighted ten years later. He was the author of a work entitled *Regeneration of India*, and of several articles and pamphlets on the science of health in India. In 1894 he married the daughter of Sardar Aya Singh of Taran Taran, Amritsar, and had three sons and two daughters.

Brevet Colonel Cecil Maurice Goodbody, D.S.O., C.I.E., Indian Medical Service (retired), died at Camberley on June 24th, aged 61. He was born on November 12th, 1874, the son of W. R. Goodbody, Esq., of Tullamore, King's County. Educated at St. Thomas's Hospital, he took the M.R.C.S. and L.R.C.P.Lond. in 1899; also subsequently the D.T.M. of London in 1906 and of Liverpool in 1908, and the F.R.C.S.I. in 1909. After filling the post of clinical assistant for out-patients at the Evelina Hospital for Sick Children, he entered the I.M.S. as lieutenant on January 27th, 1900, and became lieutenant-colonel on July 27th, 1919, having previously received brevets as lieutenant-colonel on December 21st, 1916, and as colonel on January 1st, 1919. He was placed on the temporary non-effective list on account of ill-health on November 14th, 1920, and retired on April 21st, 1921. He served on the North-West Frontier of India in the Waziristan campaign of 1901–2, receiving the Frontier medal with a clasp; and throughout the war of 1914–18, in Iraq, when he was mentioned in dispatches six times—in the *London Gazette* of February 17th, 1915, October 19th, 1916, August 15th, 1917, March 12th, 1918, February 21st, 1919, and June 5th, 1919—and received the D.S.O. on February 18th, 1915, and the C.I.E. on January 1st, 1918, as well as the brevets of lieutenant-colonel and colonel. In 1902 he married Edith Isabel, daughter of Alexander Saunderson of Oakhill Park, Liverpool; she died in 1925, leaving a son.

Captain Maurice Fitzgerald Nash Griffin, R.A.M.C., died at Leeds on April 28th, aged 32. He was educated at Stratford-on-Avon and Trinity College, Dublin, where he graduated M.B., B.Ch., and B.A.O. in 1927. Entering the R.A.M.C. as lieutenant on July 27th, 1927, he became captain on January 27th, 1931. After service on the North-West Frontier of India he returned home for a period of duty at the R.A.M.C. Depot, and was appointed adjutant of the 49th Division, Medical Services, at Leeds, in January, 1935.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

In the House of Lords on July 2nd the Public Health Bill was considered on the report stage, and drafting amendments were made.

On the same day the Lords read the Public Health (Drainage of Trade Premises) Bill a third time. Lord Gainford, who had introduced the Bill, referred to the pollution of rivers by cyanide and the resulting damage to fishing. Lord Listowel said the special circumstances of the London area had obliged the London County Council, the metropolitan borough councils, and the Port of London Authority to secure the exclusion of their territory from the operation of the Bill. If its provisions proved beneficial where adopted the London County Council would consider obtaining similar powers in the London area. Lord Gage, for the Government, said he could not give an undertaking on what would happen to the Bill in the Commons, but it had been prepared in collaboration with the Ministry of Health, and the Government viewed it with sympathy.

The Finance Bill was read a third time by the House of Commons on July 3rd.

The report of the Joint Select Committee on the Public Health (London) Bill was laid on the table of the House of Commons on July 1st. This Bill is primarily a consolidating one, and has been introduced by the Government in the House of Lords.

The Education (Scotland) Bill passed through the report stage in the House of Commons on July 2nd, and was read a third time. During the report stage minor amendments were made. Clause 7 deals with mentally and physically defective children, and puts a duty on the local education authority to make special provision for these in schools or otherwise. Mr. J. C. M. Guy proposed that after the word "schools" the House should insert "or in occupational centres." The Lord Advocate argued that if the children in these centres were incapable of education the amendment was outside the scope of the Bill. The Deputy Speaker then ruled it out of order.

The Midwives Bill has been sent to the House of Lords, and may receive the Royal Assent before the summer recess.

Supplementary Estimates for the Defence Forces and also the new Regulations for Unemployment Assistance were laid before the House of Commons this week.

The Members nominated to serve as the House of Commons Select Committee on the Medicine Stamp Duty are Sir Reginald Blair, Sir John Haslam, Captain A. H. M. Ramsay, Admiral Beamish, Mr. R. A. Cary, Sir John Ganzoni, Mr. E. H. Keeling, Mr. A. B. Baxter, Sir Arnold Wilson, Mr. Lewis Jones, Mr. Richard Acland, Mr. G. Benson, Mr. George Hall, Mr. George Hardie, and Mr. George Latham.

Mr. Geoffrey Lloyd moved on July 7th for the issue of the annual return of experiments on living animals, showing the number of licences granted under the Act 39 and 40 Victoria, the number of experiments performed under the Act during 1935, and the registered places at which such experiments may be performed.

In the House of Commons on July 7th the Old Age Pensions Bill and the National Health Insurance Bill, which have passed the Lords, were read a second time.

Hours of Employment of Children

In the House of Lords on June 30th the Education Bill was considered in committee.

On Clause 2, which makes provisions with respect to employment certificates, Lord ASKWITH moved an amendment limiting to not more than forty-four hours in any one week the period during which a child who had been exempted from school attendances might be employed. He said that the number of hours which some children were now working was preposterous, and the report made about them by many people, including important officers of the Health Department, indicated that it was very unsatisfactory that this state of things should continue. He had reports in which the senior medical inspectors deplored the tendency to employ young persons to the full limit of the legal hours. The reports said that no policy could be more short-sighted. Mental concentration if the work was to be done properly could hardly be expected to persist over the whole period allowed by law, and such long periods could scarcely be regarded as beneficial to the maintenance of the health of the young persons employed. The percentage of accidents among these young persons was very great indeed, and if young persons were taken from school in order that they might enter industrial employment it seemed certain that those evils which we were trying to avoid would not only be increased, but the health of a large number of the younger generation would be considerably damaged.

EARL DE LA WARR said it was not appropriate, in the Government's view, to deal with the hours of child labour by an amendment to an Education Bill. The Government had already promised to introduce a Factory Bill next year. Such a Bill would not cover all children, and it was possible that proposals for the regulation of hours of work elsewhere than in factories would also be brought forward.

The promise was reiterated by Viscount Halifax, Lord Privy Seal, in the course of further debate, and on this understanding Lord Askwith withdrew his amendment.

The Bill passed through committee.

Maternity and Child Welfare by Voluntary Associations

In a written answer to Mr. W. T. Kelly on June 29th Sir KINGSLEY WOOD recorded that Section 101 of the Local Government Act, 1929, did not provide for any delegation of maternity and child welfare duties. It required the council of every county (except London) and every county borough and, in certain circumstances, other local authorities who had established maternity and child welfare committees, to prepare and submit to the Minister for his approval, before the beginning of each fixed grant period under the Act, a scheme for securing the payment by the council of annual contributions towards the expenses of voluntary associations providing maternity and child welfare services in or for the benefit of their area. Such schemes were at present in operation in the case of sixty-one county councils, sixty-eight county borough councils, and thirty-one other local authorities who had established maternity and child welfare committees. As regards the County of London, Section 101 provided for a similar scheme to be made by the Minister after consultation with the local authorities concerned. The scheme at present in operation provided for contributions to be made to certain voluntary associations by the London County Council and to certain other voluntary associations by twenty-five metropolitan borough councils.

Health Insurance for Persons under 16

Answering Mr. Harold Sutcliffe on July 1st Sir KINGSLEY WOOD reaffirmed his intention to introduce legislation at the earliest convenient opportunity to cover the gap in the provision for the medical supervision of boys and girls between the school-leaving age and the age of entry into full insurance under the national health insurance scheme. Mr. LOGAN asked whether the entry into insurance would be on a contributory basis and, if so, at what rate. Sir KINGSLEY asked Mr. Logan to wait for this information.

Dental Benefit

In a reply to Mr. Paling on July 2nd Sir KINGSLEY WOOD said there was no special statutory provision for dental treatment between the school-leaving age and the time when boy and girl contributors qualified for the additional benefit (dental) under the National Health Insurance Act. The children referred to were entitled equally with other members of the community to take advantage of the facilities provided by the local authorities as part of their public health or public assistance services.

Nutrition

Mr. SANDYS asked on July 1st to what extent the inquiries of Sir Kingsley Wood had established the existence of malnutrition in the United Kingdom. Sir KINGSLEY WOOD referred Mr. Sandys to the annual reports of the Chief Medical Officer of the Ministry of Health and of the Board of Education, and also to Sir Godfrey Collins as Secretary for Scotland. He added that he would like to see a good definition of malnutrition.

On July 2nd Mr. BALDWIN announced that the Treasury Vote would be discussed on July 8th. Mr. ATTLEE said the Opposition would put a motion down for that day dealing with malnutrition. The subject concerned a number of Ministries.

During the debate on the third reading of the Finance Bill in the House of Commons on July 3rd Mr. MONTAGUE said the greatest authority on nutrition in the country had stated that more than 20,000,000 people—nearly half the population—did not get enough to eat. That statement was confirmed by other authorities and associations in this country. Sir A. M. SAMUEL said that minute analysis of the unemployment figures would probably find 500,000 or perhaps 1,000,000 poor creatures physically inefficient or mentally unfit to fight the battle of life. Mr. MONTAGUE asked if Sir Arthur disputed Sir John Orr's calculation that 20,000,000 people in this country did not get enough to eat.

Replying to the debate, Mr. NEVILLE CHAMBERLAIN said whatever the number suffering from malnutrition it could not be nearly so great as in 1931. There was no reason why the country should not support the rising burden of national expenditure with a constantly rising standard of comfort and health. They had a great deal to learn about the health of the people. The first thing was to satisfy themselves on the proper diet for persons living under the conditions of to-day. Having arrived at some conclusion they could in many ways improve the health of the people, although not able, as they would desire, to raise their remuneration to a height at which it would permanently increase their comfort. These matters must depend on the commercial prosperity of the country. Without that they could not meet the demands for fresh social services any more than the expenditure on armaments.

The Finance Bill was then read a third time.

Free Meals to School Children

Mr. J. H. JAGGER asked on July 2nd how many education authorities in England and Wales provided free meals, other than milk meals, to elementary school children in March, 1934, March, 1935, and March, 1936, respectively, and the number of children receiving such meals at these periods. Mr. OLIVER STANLEY, in reply, furnished the following table:

Period	Number of local education authorities in England and Wales providing free meals, other than milk meals	Number of children receiving such meals
March, 1934	120	104,144
March, 1935	125	100,177
March, 1936	131	92,679

School Holidays and Provision of Milk

On July 6th Mr. HEPWORTH asked whether, in conjunction with the British Milk Marketing Board, it was intended to operate in the school holidays any system of supplying school children with their daily milk. Mr. OLIVER STANLEY replied that it was expressly provided in the Milk-in-Schools Scheme that it might operate throughout the holidays, and arrangements for the supply of free milk were in operation in a number of areas. There were a few arrangements—at Plymouth and elsewhere—for the provision of milk on payment during the holidays. He would welcome the extension of such arrangements, and was considering with the Minister of Agriculture means of surmounting the difficulties involved.

Sir KINGSLEY WOOD states that in England and Wales milk is supplied free, or at less than cost price, to necessitous expectant mothers by 402 maternity and child welfare authorities, and to necessitous nursing mothers by 400 of these authorities. A large proportion of these authorities also supply other foods for necessitous, expectant, and nursing mothers. Meals for mothers are provided at dining centres by forty-one authorities. The Ministry of Health always endeavours to induce local authorities to take such action.

Sale of Medicines on Sunday

In the House of Lords on July 2nd the Shops (Sunday Trading Restriction) Bill was considered in committee.

The EARL OF MUNSTER moved the omission of the first schedule in the Bill, which exempts trades and businesses from being closed on Sundays, and moved a new schedule, which enumerated the transactions for the purposes of which a shop may be open for the serving of customers on Sundays. These transactions included the sale of medicines and medical and surgical appliances by any person who has entered into a contract with an Insurance Committee under the National Health Insurance Acts, 1924 to 1935, for the supply of drugs and appliances.

The new schedule was agreed to and the Bill passed through committee.

Midwives Bill

In the House of Commons on July 6th the Midwives Bill was considered on the report stage. Sir KINGSLEY WOOD moved to recommit the Bill in respect to amendments in his

name to Clause I (Provision of Domiciliary Service of Midwives). He said that during the discussions in committee it was generally agreed that it would be advisable to have a longer period than the ten days provided for the attendance of midwives as maternity nurses after childbirth. The Parliamentary Secretary (Mr. Shakespeare) gave an undertaking to put down an amendment before the report stage to the effect that the period of attendance of the maternity nurse should correspond with the period laid down from time to time by the Central Midwives Board, and approved by the Minister. In accordance with the pledge, and the unanimous view of the committee, he now asked for the recommittal of the Bill to make amendments that would ultimately increase the minimum period of attendance by a salaried midwife when acting as a maternity nurse.

Replying to the protest by Mr. R. J. Davies against leaving the decision in this matter to the Central Midwives Board, Sir Kingsley said that under the Midwives Act, 1902, it was laid down as one of the duties of the Board that it should frame rules for regulating, supervising, and restricting within due limits the practice of midwives. The House would secure all they desired in regard to control, as the Board would, in pursuance of its duty, increase the period of attendance to fourteen days.

The motion to recommit the Bill was carried, and the amendment to which Sir Kingsley Wood had referred was agreed to.

The Bill passed the report stage, and was read the third time.

Speaking on the third reading, Sir Kingsley Wood said the forthcoming report of the committee on maternal mortality would not attribute those deaths to any one cause. Maternal mortality was not merely a problem of poverty or of malnutrition.

Public Health (London) Bill

In the House of Lords on July 7th the Public Health (London) Bill, which consolidates the enactments relating to public health in London, was considered in committee on recommitment. A series of amendments, mostly of a drafting character, were approved. In Clause 306 (Interpretation) the phrase "place of safety" was amended to mean any "remand home, workhouse, or police station, or any hospital, surgery, or any other suitable place, the occupier of which is willing temporarily to receive a child." The Bill passed through committee.

On July 7th, in the House of Lords, the Public Health Bill was, on the motion of Viscount GAGE, read the third time, and passed.

Overcrowding at Liverpool Mental Hospital.—Sir KINGSLEY WOOD told Mr. Logan on July 2nd that his attention had been drawn to a document issued by the Liverpool City Council about the overcrowded state of the mental unit at the Smithdown Road Hospital, Liverpool. This overcrowding was due to the general shortage of mental hospital accommodation in the area served by the Lancashire Mental Hospitals Board. Schemes were in progress for provision of additional accommodation, which should relieve this congestion. Mr. LOGAN asked if Sir Kingsley thought it right that boys and girls should be certified every fortnight for detention and be lodged as casuals. He added that this had gone on for over seven years. Sir KINGSLEY said that if these were the facts he regretted them. Steps were being taken to meet the difficulty.

Tuberculosis Death Rate in Northumberland and Durham.—Sir KINGSLEY WOOD told Mr. J. R. Leslie on July 2nd that for the years 1931 to 1935 the death rates from pulmonary tuberculosis among females aged 15 to 25 years per 100,000 population in the counties of Durham and Northumberland, including the associated county boroughs, were: 1931, 161; 1932, 163; 1933, 155; 1934, 144; and 1935, 131. The report of the Chief Medical Officer of the Ministry of Health for 1933 contained a statement that this death rate was 152 per 100,000 for the period 1926 to 1930 in the two administrative counties only. Sir Kingsley could not give rates for later years for the administrative counties separately from the associated county boroughs.

Medical News

A meeting of the Society for the Study of Inebriety will be held at 11, Chandos Street, W., on Tuesday, July 14th, at 4 p.m., when Dr. Doris Odlum will open a discussion on "Alcohol and Drug Addiction in Relation to Mental Health."

The official banquet of the second International Congress for Microbiology, to be held in London at the close of this month, will take place at the Trocadero Restaurant, on Friday, July 31st.

The twenty-fifth Congress of the German Society for Forensic and Social Medicine will be held at Dresden from September 17th to 19th. Further information can be obtained from the secretary, Professor Schrader, Lahnstrasse 9, Marburg a.d. Lahn.

The first International Conference on Fever Therapy, announced in our issue of June 6th to be held from September 29th to October 3rd, has been postponed in order to allow more time for the preparation of material. The new dates for the conference are March 30th to April 2nd, 1937.

The Association of Special Libraries and Information Bureaux (ASLIB) is to hold its thirteenth annual conference at Balliol College, Oxford, during the week-end beginning Friday, September 18th. An attractive programme of lectures is being arranged. Particulars may be obtained from the Secretary of the Association, 16, Russell Square, London, W.C.1. Dr. Cyril Norwood has agreed to accept nomination as president of the Association for 1936–7.

At a meeting of the Council of the Royal Society of Medicine, held on June 16th, it was resolved that the Library of the Society be open in future throughout August from 10 a.m. to 10 p.m. on ordinary week-days, and from 10 a.m. to 6.30 p.m. on Saturdays as during the rest of the year. The Library will be closed at 5.30 p.m. on Tuesday, July 28th, and all day on Monday, August 3rd.

A Congress for Sport Medicine will be held at Berlin at the time of the Olympic games from July 28th to 30th, when the following papers among others will be read: the muscular system as an organ of metabolism, metabolism and work of the heart muscle, the sport lung, diet in training, the blood sugar content in the healthy man, the skin as an organ of metabolism, and sweat glands in the excretion of the products of metabolism.

Medical men who visit Berlin during the Olympic games will wish to use this opportunity of getting to know the various medical institutions and arrangements in Berlin. There has therefore been set up in the Kaiserin Friedrich-Haus, Berlin, N.W.7, Robert Koch-Platz 7, a bureau which will be able to give doctors every kind of information before and after as well as during the Olympic games. The office is semi-official and gives advice free of charge. It would be to the advantage of every doctor to get into touch, before or after his arrival in Berlin, with the Kaiserin Friedrich-Haus, so as to save time and make the most of his stay.

The journal entitled *Deutsche Militärärztliche Zeitschrift*, founded in 1872, which came to an end in 1919, has been replaced by *Der Deutsche Militärarzt*, published monthly by Julius Springer, Berlin.

Geh. Med.-Rat Dr. Georg Winter, who was professor of obstetrics and gynaecology at Königsberg for twenty-seven years, celebrated his eightieth birthday on June 22nd at Baden-Baden.

Professor Ruge of Dresden has been awarded the Bernard Nocht medal in recognition of his contributions to tropical medicine.

On the occasion of the 150th anniversary of the birth of Friedrich W. A. Sertürner, the discoverer of morphine, a monument is to be erected in his honour at his birthplace in Germany.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone, unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

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QUERIES AND ANSWERS

Palliative for Hay Fever

"A. V. S." writes: As a sufferer from hay fever for many years I found great relief last year and this year from the use of "salfoin" (Pickups, Ltd.). This preparation is an analgesic salve for intranasal application, and is stated to contain para-amino-benzoic ethyl ester and methyl-amino-ethanol catechol with paraffin and adeps lanae. By its use first thing in the morning and during the day before exposure to outdoor conditions likely to cause an attack of hay fever, it has been possible without discomfort to engage in activities that formerly brought on acute attacks—for example, prolonged work in the garden, walks through meadows and drives in the country, garden parties, picnics, and the like. The salve not only prevents or diminishes the severity of the sneezing attacks, but also diminishes rhinorrhoea and nasal and conjunctival irritation.

LETTERS, NOTES, ETC.

Malaria Transmission

Dr. J. C. RYAN (late W. African Medical Staff) writes: In the *Journal* of June 20th (p. 1267) Sir Malcolm Watson is reported as having stated in his lecture on tropical diseases research, while dealing with the parasites of filaria and malaria: "But although the two parasites differed in so many ways certain facts in the life-history suggested to Manson's acute mind that both made the escape from their human host by being drawn out of the blood and living for a period and developing in a blood-sucking insect"; and "Thanks to the brilliant deductions of Manson and the patient experiment of Ross the mode of infection of malaria became clear." I will make the necessary correction by quoting from both Sir Patrick Manson and Sir Ronald Ross. On page 17 in Manson's *Tropical Diseases*, published in the year 1898, he states: "Man, I conjecture, may become infected by drinking water contaminated by the mosquito, or, and much more frequently, by inhaling the dust of mud of dried-up mosquito-haunted pools, or in some similar manner." Sir Ronald Ross, in *Memoirs*, writes: "It has been also said that he [Manson] selected me to verify his theory. Quite untrue: I selected myself, and no one else really touched the work till I had done it."

Specific Treatment for Acute Sepsis

Dr. JOHN T. SIMPSON writes from Folkestone: Dr. W. M. Crofton's letter in the *Journal* of July 4th (p. 56) is worthy of comment. As an obstetric surgeon I adopted this line of treatment (in London) for puerperal sepsis. The results were frequently miraculous, and easily out-distanced any other line of treatment adopted in a practice extending over twenty years. Were it adopted more extensively I have no doubt that the maternal mortality rate would be greatly reduced. If Dr. Leonard Colebrook's suggestion that bacteriological laboratories should be established throughout the country were only acted upon promptly "carriers" could be detected and autogenous antigens made available to those who reside far distant from the well-equipped large cities. As one who, some years ago, was fortunate enough to have been successfully treated by Dr. Crofton by active immunization for encephalitis lethargica, I am further entitled to bear testimony to a treatment which would appear to be too long neglected for acute conditions. Is it, Sir, too much to ask for the establishment of laboratories as suggested, so that this method of treatment may be available to all?

Anti-snake-bite Serum

In view of the increase in the number of adders in certain regions, especially Epping Forest, the New Forest, and the West Coast of Scotland, and of the difficulty experienced in dealing promptly with cases of snake-bite, Messrs. Boots announce that stocks of the Pasteur Institute anti-venom serum are now held available at the following branches in England and Scotland: London (Piccadilly Circus and 23, Aldgate High Street); Edinburgh (48, Shandwick Place); Oban (70, George Street); Bournemouth (33, Old Christchurch Road); Nottingham (10, Wheeler Gate).

Medical Art Exhibition

The second annual exhibition of the Medical Art Society at the house of the Royal Society of Medicine (1, Wimpole Street) with Sir Leonard Hill as president, shows once more the versatility of so many medical men. Though the general standard of work is very high for an amateur art society that of Sir Harold Gillies stands out from the rest, "River Eio and Fjord" being his best work. "Battersea Power Station" and other paintings by H. Elliott Blake are also very good. "Evening at the Fair" and "Motorists attacking a Belisha Beacon" are vigorous and lively paintings in black-and-white by Rupert Hallam. H. B. Maitland also shows some good work, including "Canal, Manchester." Among many other exhibits deserving mention are "Flower Piece" by Emanuel Mil'er; "In the Carpathians," "Sunshine and Cloud in the Tyrol" by T. H. Somervell; "Sunrise in Scotland" by T. Anwyl Davies; "Sitting Hen" by Sir Leonard Hill; "Paddy Bridge" by C. M. Hinds Howell; "Upper Basildon" by Sir Squire Sprigge; "Hassan's House," "The Foundation to Mary Thom" by John Hay; "Farm Yard" by Charles Pannett; "Middlesex Hospital Nurses' Home" by S. Hales. The exhibition will remain open each day between 2 and 6 p.m., until Tuesday, July 14th (Saturday excepted).

Medical Golf

The Scottish Medical Golfing Society held its summer meeting at Princes' Golf Club, Sandwich, on June 27th and 28th. The following are the results of the various competitions: *Singles v. Bogey*: (1) J. Benson Young (7), 3 up; (2) D. J. MacMyn (16), 1 down. *Singles v. Medal*: (1) J. Benson Young (7), 73; (2) D. J. MacMyn (16) and E. F. S. Gordon (7), 76. An *Eclectic Competition* was then held: (1) D. J. MacMyn (16), 63; (2) J. Benson Young (7), 66. *Four Ball v. Bogey*: (1) W. S. Maclay (8) and B. Shires (11), 8 up; (2) D. J. MacMyn (16) and E. L. Bartleman (12), 6 up.

Corrigendum

In Dr. C. W. Healey's letter on histidine treatment of peptic ulcer on page 47 of last week's issue a compositor's mistake in taking out a wrong line rendered the context meaningless. From the third line of paragraph three the wording should read: "'After five hours a fleck of barium was seen high up in the jejunum, indicating the presence of an ulcer.' Histidine hydrochloride (B.D.H.) was given for twenty-five consecutive days, and after the third injection the patient had no further symptoms."

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 44, 45, 46, 47, 48, 49, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 31.